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An Architect Looks at Standards (page 296)

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MARGINAL NOTES

Sputnik—

Standards are making it possible for American scientists to track the Russian satellite, Sputnik. The National Bureau of Standards' time signal broadcasts, guaranteed accurate to within one part in 100 million, make possible the coordinated timing needed for accurate observations. Station WWV, the Bureau's radio station at Beltsville, Md, regularly broadcasts standard radio wavelengths, time signals, and musical pitch that are used to keep USA's clocks on time, electrical instruments accurate, and pianos in tune.

NBS scientists predict that some day the quartz crystal oscillators at WWV will be tied to an atomic frequency standard. Then the broadcasts may be even more accurate than one part in 100 million; for the present, the WWV signals offer scientists the most accurate guide available for satellite tracking.

Drafting Standards—

Publication of four of the new standards that will be included in the American Standard American Drafting Standards Manual, Y14, (page 289) will be welcomed. Undoubtedly there will be questions about them. One that has already been asked is, "Do the new standards follow the principle of simplified drafting?" Professor R. P. Hoelscher, chairman of the Y14 committee, has answered that question. He says:

"In the preparation of the Y14 Drafting Practice, the objective was to produce a comprehensive standard, based on well established conventional practices, to satisfactorily fulfill industry's most exacting fundamental drafting requirements.

"With respect to simplified drafting practices, every effort has been made to reflect universally recognized, time-honored simplified practices. Many practices, although in substantial use in some segments of industry, have been omitted to avoid every possible objection that might compromise national approval and acceptance of the standard.

"It is expected that user groups will supplement the provisions of the Y14 standard practices with varying degrees of simplification, discreetly decided upon at individual user levels in keeping with the type of service for which drawings are prepared."

The sponsor organizations, who are responsible for the administrative work of the Y14 activities, were congratulated on completion of the first phase of the committee's program. Said Admiral Hussey, ASA's Managing Director, "The consensus now reached illustrates how energetic leadership by the American Society of Mechanical Engineers and the American Society for Engineering Education in the application of ASA procedures, and the cooperation of all participants, makes intelligent compromise possible. Thus solutions have been found that are of benefit to all parties concerned."

ABC Meetings—

A report of the results of the meeting of Canadian, United Kingdom, and USA representatives at Toronto, Canada, October 7-11, will be published in the November issue. The meeting considered possible unification of drafting practices.

The Front Cover—

Design and materials used today and yesterday are contrasted in this interesting picture showing the Colgate - Palmolive - Peet building on Park Avenue, New York City, while still under construction. Use of aluminum, glass, and glazed brick make the building a show place.

The American Institute of Architects' first hundred years as related to standards is presented by the Institute's technical secretary, page 296.

This Month's Standards Personality

HAROLD WESTMAN, authority on radio engineering and technical publishing, and editor of *Electrical Communication*, was the perfect choice to serve as chairman of ASA's Graphic Standards Board when the Board was first organized in 1950. He has been chairman ever since. In this capacity he leads in sparking the nationwide standards work on drawing and drafting practice, graphical symbols, letter symbols, and abbreviations. He not only leads, he works on the committees he is leading, too,—as chairman of several subcommittees, and as a member of sectional committees on abbreviations, illustrations for publications, and graphical symbols. This is in addition to his chairmanship of the Sectional Committee on Preferred Numbers, Z17.

Mr Westman entered the technical communication field in 1926 when he became a member of the editorial staff of *QST*, the magazine for ham radio operators. He was a ham operator himself, having built his own crystal set at the age of 15.

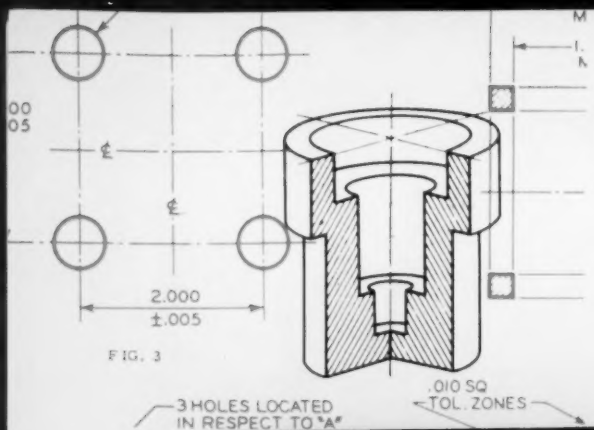
In 1930 he expanded his field by joining the staff of the Institute of Radio Engineers as assistant secretary. Later that year he became the youngest secretary in IRE history.

World War II put a severe strain on radio components. Extremes of temperature, shock, and severe vibration disrupted radio communication in the field, and scarcity of materials threw chaos into established standards. Mr Westman left IRE to help prepare new standards, to use substitute materials and set down performance requirements that would prevent failure of radio equipment even under the severest service conditions. As secretary of the War Committee on Radio of the American Standards Association, he gave his full time to development of the American War Standards for Radio Components. The work done by the committee was compiled after the war into an imposing volume. During presentation of a service award to ASA, Rear Admiral Charles A. Dunn said of this work: ". . . by simplification and standardization of component parts of military radios, you helped to bring our communication systems to a level unachieved by any other of the nations at war."

After the war, a year with the Institute of the Aeronautical Sciences took Mr Westman out of the communications field temporarily, but he soon returned to it as associate editor and, in 1948, as editor of *Electrical Communication*, published by the International Telephone and Telegraph Company. He is also editor of the present (fourth) edition of the widely used book, *Reference Data for Radio Engineers*.

Mr Westman keeps up with new developments in electrical engineering, radio engineering, and technical communications through membership in the American Institute of Electrical Engineers, Association of Technical Writers and Editors, House Magazine Institute, Institute of the Aeronautical Sciences, Institute of Radio Engineers, and the Standards Engineers Society.

His eager and inquiring outlook on life kept him for hours recently in the radio laboratory where his elder son is chief engineer. Both were trying to hear the signals of the USSR's baby moon, Sputnik. He and his wife also have a younger son, in the Navy, and a daughter.



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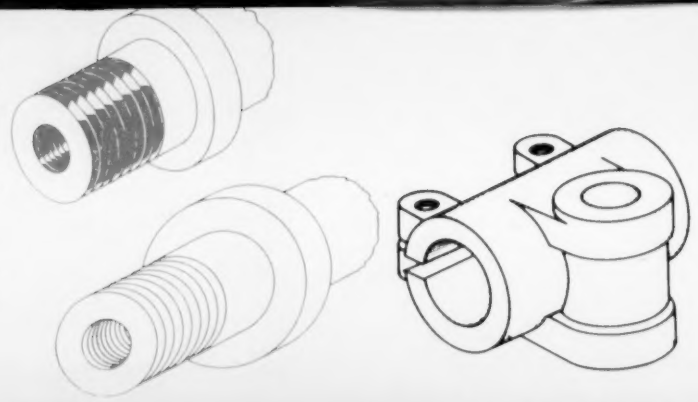

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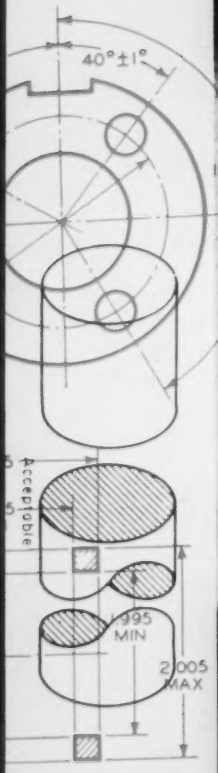
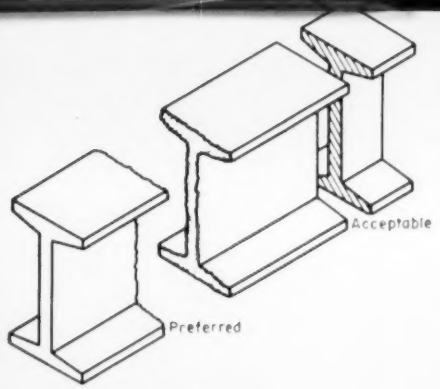
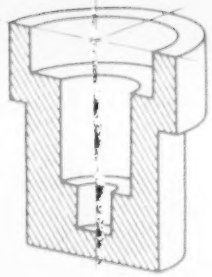
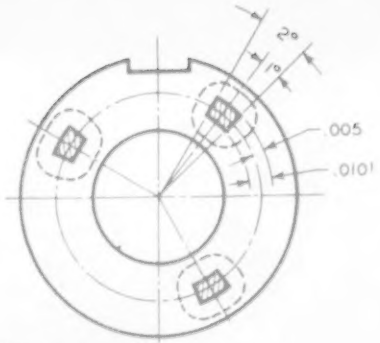


Photo Courtesy Standard Oil Co. of N. J.







Where We Stand On the New American Standard

Drafting Standards Manual

by **R. P. Hoelscher**

THE INK of the 1946 revision of our drafting standard was scarcely dry when another revision was called for in the spring of 1948 by the Company Member Conference of the American Standards Association.

In November of 1948 the Sectional Committee Y14, formerly Z14, was reorganized, an Executive Committee appointed, and a chairman elected. By the spring of 1949 a program of revision had been outlined and work was well under way in selecting chairmen and members of subcommittees to carry on the actual work of revision. Since the sectional committee is large, the Executive Committee was assigned the task of carrying on the details of operation.

The revision which is now nearing completion covers all of the material contained in the 1946 edition with some changes as described in later paragraphs. It goes much farther, however, into areas not previously covered. This new document, or more correctly, series of documents, is far more detailed and much more extensive than previous editions.

More than 168 men plus 11 men on the executive committee have been engaged over a period of nine years in producing the seventeen sections of this standard. Not one of the sections was completed under less than two years of planning, criticism, debate, and careful study of all points of view expressed by any person or company interested enough to send in comments. One section, namely, No. 5 on the subject of Dimensioning and Notes, was under active and vigorous discussion for almost eight years before a consensus was established.

Professor Hoelscher, chairman of ASA Sectional Committee Y14 on Standards for Drawings and Drafting Practice, is head of the Department of General Engineering of the University of Illinois. Committee Y14 is sponsored by the American Society of Mechanical Engineers and the American Society for Engineering Education.

Uses of the Standard

Company Standards. For the standards engineer, engaged in revising his own company drawing standard, the new American Standard Y14 Drawing Manual will provide excellent source material of authoritative methods and practices approved by literally hundreds of industries and engineering societies.

The Department of Defense of the USA has cooperated closely in the development of this new standard and it seems likely that there will be little difference in the major features of Military Standards and the new American Standard.

If a company is setting up a new standard for drawing practices for the first time, the applicable sections of the new Y14 drawing standard provides the best starting point. For a small drawing group in a company without a definitely established standards department, and perhaps with little or no time to prepare a drawing standard, no better nor more economical practice could be devised than to adopt the new standard in toto or such sections of it as apply to the business of the company.

In keeping with the fundamental philosophy of standardization, namely that of securing greater economy in manufacturing operations, the new drafting standard has been developed with this objective constantly in mind.

It was also necessary to keep in mind that drawings are more and more becoming the basis of legal contracts. Their intent must, therefore, be unmistakable and unequivocal. Simplification of drafting standards

has, therefore, been limited to those areas where a national consensus now exists.

This program does not go as far as some persons would like but we believe we have gone as far in drafting simplification as it is prudent to go at the present time. In subsequent revisions it may be possible to introduce further simplification as some of these practices become more thoroughly understood and more universally accepted.

Company Training Programs. Since the various sections of the Drafting Manual will be issued separately, they can be used to supplement company standards where the latter do not provide as thorough coverage as may be desired for training programs for draftsmen. In this respect Sections 7 through 17 will be found very useful not only in training but for draftsmen and young engineers who must translate the ideas of designers into working drawings.

For companies contemplating the development of training programs and not having adequate standards of their own, the new American Drafting Standards Manual can be adopted as a correct and adequate guide for their trainees.

Educational Institutions. Drawing departments of Engineering Colleges and Technical Institutes will find in this new standard authoritative guidance for instruction. While it cannot be said that the drafting standard will settle all problems which arise in the teaching situation it will answer most of them and reduce the area of doubt by a very substantial amount. By following the standard, students will have a sound basic knowledge to enter any phase of drafting covered by our manual. By having direct access to this standard for reference, students will also become more familiar with the work of the American Standards Association and know where to look for help in other areas where standards can save money. Complete copies of the standard should be available to students for reference while taking their drawing courses, since it will no longer be possible for textbooks to reproduce the entire drafting standard which will run close to 300 pages.

Contents of Drafting Standards Manual

The new standard is composed of the following 17 sections:

1. *Size and Format.* (10 pages, 5 illustrations) H. H. Rau, Chairman. Engineering Services Division, General Electric Company, 1 River Road, Schenectady, New York.

The section, which deals with sheet sizes, border lines, title blocks, and the like, contains seven pages as against two pages in the 1946 standard. The increase is largely devoted to format of title blocks, revision lists, and zoning. Two basic sizes and multiples thereof have been approved, namely, 8½ x 11 and 9 x 12. It was necessary to approve this change from the 1946 standard which had only the 8½ x 11 size in order to get a consensus from certain industries.

2. *Line Conventions, Sectioning, and Lettering.* (24 pages, 28 illustrations) H. C. Spencer, Chairman. Head of the Department of Technical Drawing, Illinois Institute of Technology.

This section combines the material which appears in Sections 2, 3, and 9 of the 1946 standard. In line work only the phantom line was changed. The portion on sectional views was expanded for clarification. Lettering is unchanged. Nationwide agreement is well established in the area of this section.

3. *Projections.* (15 pages, 23 illustrations) C. J. Vierck, Chairman. Professor of Engineering Drawing, The Ohio State University.

This section covers the arrangement of views, for multiple view orthographic projections. One and two view drawings are recommended where such views are clear. Simple auxiliary views are included as well as the representation of standard runouts and filleted intersections. Essentially the same material has been covered as in the 1946 edition but a number of clarifying illustrations have been added. Naturally, third quadrant projection is used and no changes are made.

4. *Pictorial Representation.* (12 pages, 24 illustrations) C. H. Springer, Chairman. Professor of General Engineering, University of Illinois.

This section is entirely new and has not been previously covered in any standard. Its chief function is to establish correct nomenclature for various kinds of pictorial drawings, such as isometric, dimetric, trimetric, oblique projections, and the various forms of perspective drawings.

Methods of constructing pictorials are not shown. A liberalized method of dimensioning pictorials has been approved.

With the need for training unskilled persons, the use of pictorial drawings has become quite important in industry and it is believed this standard is quite timely and useful.

5. *Dimensioning and Notes.* (36 pages, 109 illustrations) N. E. Brown, Chairman. Chief Designing Engineer, The Taft-Peirce Manufacturing Company, Woonsocket, Rhode Island.

This section has been the most controversial in the entire drafting standards program and it is gratifying

Four of the 17 sections of the new American Drafting Standards Manual have now been approved as American Standard by the American Standards Association and published by the American Society of Mechanical Engineers. ASME is sponsor with the American Society for Engineering Education. The published sections are Size and Format, Y14.1-1957; Line Conventions, Sectioning, and Lettering, Y14.2-1957; Pictorial Drawing, Y14.4-1957; and the section that contains many new methods and has caused so much discussion, Dimensioning and Notes, Y14.5-

to report that a consensus has at last been reached.

It covers the definition of terms used in dimensioning drawings and the usual well recognized principles of placing and arranging dimensions, leaders, and notes. It includes recommended practice for dimensioning standard details such as drilled holes, countersunk or counterbored holes, and a large number of other items which appear regularly on drawings. There was little difficulty with this part of Section No. 5.

The area of difficulty has been confined to three topics, relatively new in American drafting practice:

1. Tolerancing of form or geometric tolerancing as it is called in the British Standard.
2. True position tolerancing.
3. The application of the maximum material concept in dimensioning drawings.

These three topics formed the basis for discussion at the American-British-Canadian Conference on Unication of Drawing Standards held October 7-11.

For those industries where close tolerances are required this standard opens up a whole new field of control. The key phrase to the application of the dimensioning principles involved in the three concepts mentioned above is well stated in the British document as follows: "Tolerances should be specified for all requirements affecting functioning or interchangeability wherever it is doubtful that ordinary or established workshop technique and equipment can be relied upon to achieve the required standard of accuracy. Tolerancing should also be used to indicate where unusually wide variations are permissible."

For contractual drawings this simply means that every dimension must be toleranced either directly or by general note.

1957. Prices are: Y14.1-1957, $1.00; Y14.2-1957, $1.50; Y14.4-1957, $1.50; Y14.5-1957, $2.00.

American Standard Y14.5-1957, was the principal subject of discussion at the ABC meetings on unification of drafting practice by Canada, United Kingdom, and USA. These meetings were held at Toronto, Canada, October 7-11, 1957. A report of the agreements reached at the meetings and a presentation of the USA point of view on the standards discussed will be presented in the November issue of THE MAGAZINE OF STANDARDS.

Some indication of the increased coverage of this standard may be gained from the fact that the dimensioning standard alone contains 36 pages as against 8 pages in the 1946 standard.

For persons in the field of engineering education it should be noted that the three areas, tolerancing of form, positional tolerancing, and the MMC principle will be beyond the capacity of most freshmen to assimilate, and clearly beyond the time limits available for adequate presentation in a college engineering course.

6. *Screw Threads.* (17 pages, 22 illustrations) W. J. Luzadder, Chairman (resigned). Professor of Engineering Drawing, Purdue University.

Only a portion of the material on the broad subject of the representation of screw threads has been covered and will be published. This work was done under the chairmanship of Frank Tisch of the Pheoll Manufacturing Company, who later had to resign by reason of a change in employment. He was succeeded by Professor W. J. Luzadder who resigned upon completion of the first portion. The methods of representing screw threads have not been changed but considerable information on thread tolerances useful to the draftsman has been given.

This section covers only unified screw threads, and leaves yet to be done, in further parts of this section, square, acme, and pipe threads. The committee will be reorganized to get the remainder of this work under way as soon as possible.

7. *Gears, Splines, and Serrations.* (approximately 14 pages, 21 illustrations) H. H. Gotberg. Chairman, Vice-President and Chief Engineer, Colonial Broach Company, Detroit 13, Michigan.

This section was covered with only two illustrations in the 1946 report. The current edition covers 14 pages and 23 illustrations. It covers splines and serrations as well as gears and will provide an excellent guide for both representation and dimensioning of these features. It should be noted that the dimensioning of gears is not covered in Section 5, Dimensioning and Notes, so there is no repetition.

8. *Sand Castings.* (11 pages, 15 illustrations) Chairmanship vacant.

This report is well along but the committee is currently inactive because the chairman who carried the work had to resign because of a change in employment. A replacement has not been found.

This section will cover those phases of the representation of castings and dimensioning of certain standard features which are vitally necessary to the draftsman who must transform a design sketch into a production drawing. It presents the combined experience of many years in the foundry industry in such things as web thicknesses, web spacing, tapering webs, fillets, and the like. We believe it will be a most useful industry standard.

9. *Forgings.* (18 pages, 28 illustrations) Charles M. McMahon, Chairman. Chief Draftsman, Bay State Abrasive Products Company, Westboro, Massachusetts.

This document is similar in general content to that of No. 8 on Sand Castings and represents again the best judgment produced by years of experience in forging. It covers draft, parting planes, thickness of webs, fillets, radii, and the like. Like Section No. 8 this document supplies the need of draftsmen who must work out on their drawings the details of forgings which can be successfully and economically made.

10. *Metal Stampings.* (33 pages, 62 illustrations) A. R. Coleman, Chairman. Western Electric Company, Chicago, Illinois.

The scope of this document covers "pressworking" of sheet metal to change its shape either with or without accompanying shearing or punching. Two general classes are involved, namely, those made by cutting the material, either to change peripheral outline or to produce openings in the interior of the piece and second, those made by forming the material to the shape desired from a flat piece without cutting. This includes recommended standards for corner radii, bend radii, minimum edge distance, center distances on holes and the like, thus eliminating the need for cut and try experimentation on product drawings.

11. *Plastics.* (20 pages, 50 illustrations) H. E. Minneman, Chairman. Delco-Remy Division, General Motors Corporation, Anderson, Indiana.

This report, like those for castings, forgings, etc, gives recommended practices in the representation and dimensional sizes of various features which the draftsman must incorporate in his production drawings. With the increasing applications of plastics in industry, this standard should prove very useful in the drafting room.

12. *Die Casting.* J. N. Smith, Chairman. Chief Engineer, Die Casting Division, Aluminum Company of America, Garwood, New Jersey.

This report is still in the hands of the committee. It will no doubt follow much the same pattern as the preceding sections.

13. *Springs, Round and Flat.* (25 pages, 17 illustrations) O. R. Hills, Chairman (resigned). Chief Engineer, The William D. Gibson Company, 1800 Clybourn Avenue, Chicago 14, Illinois.

This section is completed except for clarifying a few negative votes in the sectional committee. It includes both double line and single line representation of tension, compression, torsion, and flat springs with the specifications of information that must be given for manufacturing of each type.

14. *Structural Drafting.* (approximately 13 pages, 13 illustrations) R. P. Delano, Jr, Chairman. M. E. Section Design Division Engineering Department, E. I. du Pont de Nemours and Company, Wilmington, Delaware.

The title of this section is not satisfactory since its scope is limited to the representation of structural frame works or assemblies that the mechanical or electrical engineer might be called upon to delineate. This project has not been completed. It will not cover structural drawing for bridges, buildings, and other heavy construction. Such information is adequately covered in a two-volume work issued by the American Institute of Steel Construction.

15. *Electrical Diagrams.* D. C. Bowen, Chairman. Electrical Standardizing Section, Radio Corporation of America, Camden, New Jersey.

This committee is dealing with a subject where little has previously been done toward standardization. The need is great as evidenced by strong interest in the outcome of this work.

The original committee was set up under the title "Schematic and Wiring Diagrams" but the committee soon found it necessary to divide its scope into three different phases of this subject with separate groups working on each one.

Task Group No. 1 has confined its work to Electronics and Communications.

Task Group No. 2 is concerned with Power and Control.

Task Group No. 3, not yet fully organized, will be concerned with Logic Diagrams.

Task Group No. 1 has essentially completed its work and Task Group No. 2 is very well along. Both units will be published without waiting for the third Task Group to complete its work.

16. *Tools, Dies, and Gages.* Clarence H. Brauer, Chairman. Chief Machine and Tool Design Research Engineer, International Harvester Company, 5225 Southwestern Boulevard, Chicago 9, Illinois.

After years of effort, this committee has finally been organized and we believe will proceed expeditiously under the leadership of Mr Brauer. The subject is a difficult one and may take some time.

17. *Hydraulic Diagrams.* (22 pages, 33 illustrations). Kenneth Court, Chairman. Hydraulic Circuit Supervisor, Vickers Incorporated, 1400 Oakman Boulevard, Detroit 32, Michigan.

The scope of this standard, which is now out for sectional committee approval, covers procedures to be followed in the preparation of drawings that depict fluid power systems. The systems covered by this standard are those that use a fluid (liquid or gas) within enclosed circuits to transmit and control power. It does not cover hydraulics in the sense used by Civil Engineers.

We believe this standard to be a thorough treatment of the subject which should be very useful to those industries that use hydraulic and pneumatic control systems in their products.

Summary

It can readily be seen that this is the most thoroughgoing drafting standard that has been produced up to this time. The status of all reports is shown on the last page.

The 168 men on these 17 subcommittees have served on a purely voluntary basis. Industries and universities have paid their expenses, at least in part.

Up to this time the members of the Sectional Committee and the Executive Committee of Y14 have given nine years of service. We hope to complete most of the job by the time of our tenth anniversary next spring.

If we can do this and also reach an accord with the British and Canadians we believe we shall have made a substantial contribution to the standardization of Engineering Drawing practice in the USA.

THE ISO COUNCIL – 1957

Reported by **Vice Admiral G.F. Hussey, Jr.** *USN (ret), managing director of the American Standards Association; USA member of the ISO Council.*

THE Council of the International Organization for Standardization met this year for the first time in the Assembly Room of the new International Center at Geneva. The facilities were found to be entirely adequate and made for very pleasant meeting conditions. Because the President of ISO, Sir Roger Duncalfe of the United Kingdom, was ill, the Vice President, Dr Carlo Rossi, Director of Ente Nazionale Italiano di Unificazione, presided at all of the sessions. There was full representation from all of the Member Bodies on the Council.

The Council admitted the newly established standards body of Burma as the fortieth member of ISO. It also approved eight draft ISO Recommendations which had gone through all the required steps of the ISO procedure. These became:

ISO/R 43 Aircraft Jacking Pads

ISO/R 44 Direction of Operation of Toggle Switches on Aircraft

ISO/R 45 Aircraft Pressure Refuelling Connections

ISO/R 46 Aircraft Fuel Nozzle Grounding Plug and Socket

ISO/R 47 Aircraft Toilet Flushing and Draining Connections

ISO/R 48 Determination of Hardness of Vulcanized Natural and Synthetic Rubbers

ISO/R 49 Malleable Cast Iron Pipe Fittings Screwed in Accordance with ISO Recommendation R 7, Types, Center-to-Face and Face-to-Face Dimensions

ISO/R 50 Steel Sockets Screwed in Accordance with ISO Recommendation R 7, Minimum Lengths

The Council adopted the report of the Coordinating Committee on Atmospheric Conditioning for Testing and referred it to all interested technical committees and to the IEC Committee of Action.

This report recommends that wherever requirements for conditioning or testing materials are included in an International Recommendation, one of the following be selected as the standard atmosphere:

Temperature	*Relative Humidity*
20 C	65%
27 C	65%
23 C	50%

The report recommended that the standard reference atmosphere be:

Temperature	*Relative Humidity*
20 C	65%

Tolerances recommended for conditioning and test atmospheres are:

Temperature

Normal	Very close tolerances required
± 2°	± 1°

Relative Humidity

Normal	For closer tolerance
± 5%	± 2%

The ASA having resigned the secretariat of ISO/TC 67, Materials and Equipment for the Petroleum Industry, the Council assigned the secretariat to the British Standards Institution—the United Kingdom Member Body. The Council established a new Technical Committee on Cork and assigned the secretariat to the Portuguese Member Body. In order to expedite the work of ISO/TC 34 on Agricultural Products, the General Secretariat was requested to make contact with international organizations concerned in the field seeking their assistance to the Hungarian Member Body which holds the secretariat of TC 34.

Noting the increased activity of the General Secretariat which is a direct reflection of the increase in technical committee work, the Council decided to increase the dues of Member Bodies by 50 percent. For the ASA this will mean an increase of from $8,000 to $12,000 per year.

Of particular interest to the ASA was the Council's decision to eliminate "no objection" ballots which have been a source of considerable difficulty to ASA advisory groups in voting on draft ISO Recommendations. In its stead the Council authorized three replies to the call for opinion on a draft:

1. Approval of the draft as presented, to which approval editorial comments may be appended
2. Disapproval of the draft for stated technical reasons; acceptance of these technical reasons will change the vote to approval
3. Abstention from voting

The Council provided further that an affirmative majority of 60 percent of the votes cast—either approval or disapproval—shall constitute acceptance of the draft by the Member Bodies.

The Council adopted a means for securing approval as ISO Recommendations of standards developed by international organizations outside the ISO. This system is to be used on a trial basis subject to further decision by the Council.

The Council urged Member Bodies to secure bilateral agreements so that each might take advantage of the work done by others in developing national standards, thus eliminating unnecessary duplication of work.

The next meeting of the Council will be held at Harrogate, England, during the second week of the ISO meetings immediately preceding the General Assembly. The General Assembly will be held June 20 and 21, 1958.

Morehead Patterson, *chairman of the first meeting of ISO Technical Committee 85 on Nuclear Energy, examines an Australian war club used as a gavel. The club was made available for the committee's use by Henry St Leger, General Secretary of ISO. At left is Vice Admiral G. F. Hussey, Jr, USN (ret); at right, Henry Lamb, both of ASA.*

FIRST INTERNATIONAL STEPS TOWARD

NUCLEAR ENERGY STANDARDS

WORK HAS been started for development of international recommendations to bring about world-wide standard practices in application of nuclear energy for peaceful uses. At the first meeting of Technical Committee 85 of the International Organization for Standardization, Geneva, Switzerland, July 29-August 1, plans were made for developing standard terminology, warning symbols, graphical symbols for use on drawings, methods of measuring radiation and protection against radiation, and guides for safe design, maintenance, and operation of reactors. The meeting brought together 61 delegates from 13 countries, observers from 4 more, and representatives from 7 international organizations.

Under the chairmanship of Morehead Patterson, president of the American Machine and Foundry Company, USA, the technical committee divided at once into working groups led by the USA, France, and the United Kingdom. These groups, which will continue as permanent subcommittees, took initial steps towards:—

(1) Development of a tri-lingual glossary of terms applicable to nuclear energy, based on work already done in various countries.

USA delegates *at meeting of ISO Technical Committee 85. Vice Admiral W. A. Kitts, USN (ret), head of the delegation, is seated first at the table, left.*

(2) Development and approval of a warning symbol for use wherever danger from ionizing radiation is present.
(3) Adoption of units pertaining to nuclear energy, developed by the International Commission on Radiation Protection and the International Commission on Radiological Units.
(4) Development of symbols required for drawings pertaining to nuclear equipment and installations.
(5) Development of international recommendations relating to measurement of radiation and protection against radiation.
(6) Development of internationally acceptable guides for safe design, operation, and maintenance of nuclear reactors.

The technical committee and its subcommittees will take account of work already done by national and international organizations to the end that there may be no unnecessary duplication of effort. Cooperation by interested committees of the International Electrotechnical Commission is anticipated.

The ISO work falls within the same basic areas as the standards program now going on in the U.S. under the procedures of the American Standards Association.

Commenting on the meeting following his return to the United States, Morehead Patterson, who served as chairman, called it "eminently successful."

"I believe that many of the delegates approached the meeting with a feeling of skepticism and doubt that anything of real value could be accomplished at this time," he said. "At the conclusion of the meeting, however, I talked with the heads of several of the delegations and I am confident that any misgivings they might have had initially were dispelled by the constructive work which was done and that they left with an enthusiastic feeling of accomplishment.

"During the two plenary sessions of the committee as a whole, and throughout the proceedings of the three working groups who labored steadily for two and a half days, there was apparent a deep interest and an earnest desire to get action started, and a fine spirit of international cooperation. Of course, being primarily a meeting to get organized and to establish programs of work to be accomplished, there were no recommendations made for any specific standards, but I believe that positive steps were taken which will produce international nuclear standards in the shortest time possible, particularly in the fields of terminology, definitions, units and symbols; protection against the normal dangers of radiation; and safeguards against reactor hazards due to malfunctions or accidents."

The United States holds the secretariat of the ISO Technical Committee 85 through the American Standards Association.

The national standards bodies of nineteen nations are participating members of the committee. They are: Austria, Bulgaria, Finland, France, Germany, Hungary, Israel, Italy, Japan, Czechoslovakia, Netherlands, Poland, Spain, Sweden, Turkey, United Kingdom, USA, USSR, Yugoslavia.

Seven international organizations were represented at the meeting: United Nations General Secretariat; United Nations Educational, Scientific and Cultural Organization; International Labor Organization; World Health Organization; The International Commission on Radiological Units; International Commission on Radiological Protection; and the International Electrotechnical Commission.

The next meeting of the technical committee will be held in June, 1958, during the ISO meetings at Harrogate, England.

U.S. delegates at the first meeting of ISO/TC 85 were:

E.C. Barnes, (American Industrial Hygiene Association), Westinghouse Electric Corporation
Dr R.C. Dalzell, U.S. Atomic Energy Commission
General O.J. Gatchell, USA (ret) (Member-at-Large), American Machine and Foundry Company
Daniel F. Hayes, (American Society of Safety Engineers), U.S. Atomic Energy Commission
Vice Admiral W.A. Kitts, USN (ret), (Atomic Industrial Forum), General Electric Company, head of U.S. delegation
Dr Morris Kleinfeld, (International Association of Governmental Labor Officials), Division of Industrial Hygiene and Safety Standards, New York Department of Labor
W.A. McAdams, (Health Physics Society), General Electric Company
G.M. Muschamp, (Scientific Apparatus Makers Association), Brown Instruments Division, Minneapolis-Honeywell Regulator
Morehead Patterson, American Machine and Foundry Company, chairman, ASA Nuclear Standards Board; chairman of TC 85 meeting
Dr Lauriston Taylor, National Bureau of Standards
J.G. Terrill, Jr, (U.S. Public Health Service and American Public Health Association), Division of Sanitary Service, U.S. Public Health Service
Harvey Wagner, (American Society of Mechanical Engineers), The Detroit Edison Company
Dr C.R. Williams (National Association of Mutual Casualty Companies), Liberty Mutual Insurance Company
Vice Admiral G.F. Hussey, Jr, USN (ret), managing director, American Standards Association, secretary of TC 85 meeting
Henry G. Lamb, staff, American Standards Association, secretary of delegation and Working Group 1.

NOTE:—Recently, the General Secretary of ISO offered the services of Technical Committee 85 to the International Atomic Energy Agency which has been set up to coordinate world development of the peaceful uses of the atom. Membership in the Agency is open to the governments of more than 80 nations that are eligible to join. The Agency will have authority to allocate fissionable materials and enriched fuel to the member countries. It will also coordinate international training, research, and development, and is charged with setting international standards of safety and health in design and location of reactors and in disposal of radioactive wastes. In addition, the Agency will be responsible for international inspection to make sure that standards of health and safety are observed and to see that fissionable materials are not diverted to military purposes.

Photos courtesy of House & Home

1857 — An Architect Looks at Standards — 1957

Following celebration by the American Institute of Architects of its first 100 years.

by **Theodore Irving Coe,** FAIA
Technical Secretary,
The American Institute of Architects

AS ARCHITECTS LOOK backward from the Centenenial Anniversary of The American Institute of Architects, they may recall with nostalgic longing the earlier days when selection of the materials of construction posed no difficult problem.

It is not so today. In addition to the more familiar tried-and-true products, new materials of economic usefulness are appearing, not only from nature's storehouse but also from the test tubes of science, as well as from the hitherto waste piles of industry.

Strength has been combined with lightness of weight in certain essential products, while in others increased strength is developed in sections of smaller dimensions.

The conservation of winter's heat has resulted in many new insulating materials, while the control of sound within structures has developed the science of acoustics.

This ever increasing expansion in the field of the materials of construction, while enlarging the architect's choice of products, increasingly imposes problems in selection.

The need for an orderly approach to the appraisal of materials was recognized in 1898 by the formation of the American Society for Testing Materials, followed in 1918 by the formation of a national organization of five leading American Engineering Societies "to coordinate the development of national standards."

This organization, in 1928, became the American Standards Association (ASA).

The National Fire Protection Association is active in the field of fire prevention and protection, and Commercial Standards and Simplified Practice Recommendations are issued, subject to the review of Standing Committees, by the Office of Technical Services, Commodity Standards Division, the U. S. Department of Commerce.

Committees composed of representatives of industry, government, the professions, and the interested consuming public formulate the standards issued by these organizations. Standards do not remain static but are

In planning 1957 low cost home, *above, architects must consider building requirements for use of electric wiring, plumbing, central heating, lightweight and synthetic materials, mass production methods, built-in cooking and refrigeration equipment, all unknown in 1857 low cost home, left.*

subject to review and revision to keep them in harmony with the introduction of new materials and with technological advances.

Another example of standards of interest to the architect is building codes. In addition to numerous municipal and state codes, building codes have been developed by the National Board of Fire Underwriters, the Pacific Coast Building Officials Conference, the Building Officials Conference of America, and the Southern Building Code Congress.

Approximately 10,000 architects, engineers, government officials, and representatives of industry and other interested groups are voluntarily engaged in the activities of committees organized under the procedures of the American Standards Association alone.

Established standards serve a useful purpose in the formulation and revision of building codes, in which their inclusion by reference establishes the criteria desired with a minimum of textual description.

They are of equal service to the architect in the writing of specifications.

The adoption of standards by many industries, other than construction, under the procedures of ASA, ASTM, and NFPA, serve to establish authoritative criteria, test procedures, and desirable standardization of technical and economic value.

Many standards developed under ASTM procedure are approved by ASA as "American Standard."

The American Institute of Architects cooperates, through representation, with some 125 committees of the foregoing organizations in the formulation of standards, test procedures, and building code requirements related to the interests of the architect and the construction industry. Included are 40 sectional committees of the ASA. The Institute serves as a Joint Sponsor for the following ASA sectional committees:

- A10 Standards for Safety in the Construction Industry
- A17 Safety Code for Elevators, Dumbwaiters and Escalators
- A22 Safety Code for Walkway Surfaces
- A23 School Lighting
- A42 Specifications for Plastering
- A62 Coordination of Dimensions of Building Materials and Equipment (Modular Coordination)
- A97 Standard Specifications for Gypsum Wallboard

As "A New Century Beckons" in the history of The American Institute of Architects, the place of standards in our modern economy has become assured.

More and more industries will recognize the advantages of standards in establishing approved criteria in harmony with new materials and technological advances and, in many cases, in the elimination of unnecessary and uneconomical duplications of slightly varying products.

Standards will play an increasingly important role as the age of nuclear developments advances and as new products and technology set the stage for thinking far afield from our more traditional concepts.

THE USE OF STANDARDS IN BUILDING CODES

by **F. C. Frost**
Civil Engineer
American Standards Association

Courtesy, New York Historical Society

THERE are features of any standard which should be of considerable interest to anyone using the standard, and which should be especially significant to those engaged in the enforcement of regulations for our protection—such features as coordination, the basic purpose of all standardization; consensus, the outstanding characteristic by which a standard may be recognized; and compliance, the normal expectation from a standard.

Instead of just reviewing the long list of standards available, let's briefly discuss these features and make certain that we agree on the meaning and significance of the term "standard." This, in fact, is a standardization process in itself; the dictionary is perhaps the best and most commonly used standard we have. If we agree on the meaning of the term, we can use standards with confidence and to our substantial advantage.

Take the idea of coordination. No matter what industrial standard you select, you will discover upon investigation that the ultimate purpose of the standard is the coordination of the various industries, or the various segments of the industries, or the various parties at interest in the subject. The basic objective of all industrial standardization is this coordination for the common good.

This paper was prepared by Mr Frost for presentation at the annual school for building inspectors of the Eastern States Federation of Building Officials. Although it was directed specifically to the building inspectors, the principles and views expressed apply not only to the building field but also in all other fields where American Standards are used.

Let me illustrate. You are all familiar, I know, with the history of the Baltimore fire. You are perhaps tired of reference to it, but let me quickly draw that picture once more. In 1904, before the days of fireproof and fire-resistant construction, fire breaks out in the heart of Baltimore. It isn't long before we have a general alarm fire. The fire is not brought under control, however. Appeals for outside help are considered and then made. Small town equipment will not help much. The most modern equipment for city fire fighting is needed. Where to get it? Washington, then Philadelphia, and finally even New York are asked to come to the assistance of Baltimore. In the best American tradition these cities immediately organize the aid they can afford to send. The railroads cooperate fully in this emergency. In New York a special train is hastily assembled; the fire-fighting equipment is hauled aboard. The track is cleared, and the emergency special highballs to Baltimore. From the Baltimore yard the pumpers and other equipment race to the scene of the fire in the center of the business district. But then what happens? Why, the best New York has to offer stands idly by while the fire continues to rage. The valiant trip is wasted; the New York equipment is useless at this fire. The New York hose couplings do not fit the Baltimore hydrants. For lack of coordination, for lack of a standard, the loss is considerably greater than it might have been otherwise.

So now we have an American Standard for hose coupling threads and now New York hose or any other hose fits Baltimore hydrants. Through standardization the efforts of the hose industry have been coordinated with the efforts of the hydrant industry. You can go on manufacturing hydrants as you see fit and I can go on

During American Institute of Architects' first 100 years, *construction generally has changed as radically as the change shown in these New York street scenes. Left, the junction of Broadway and Fifth Avenue at 23rd Street, about 1895. Right, looking up Lexington Avenue to the Chrysler Building, straight ahead; Empire State Building at left.*

Consolidated Edison Co., of New York, Inc.

making fire hose in my own way, neither of us paying any attention to the other, or even worse, both of us insisting that our size is the right one. We obviously do no one any good—certainly not the public but neither each other nor ourselves. Yet through the simple device of a standard our efforts are coordinated to the benefit of all. To coordinate, according to the dictionary, means "to bring into a common action, movement, or condition; to regulate and combine in harmonious action; to adjust; harmonize." For some reason or other the word coordination is defined a little differently but means "combination in suitable relation or so as to give harmonious results; functioning of parts in cooperation and normal sequence." Note, however, the repeated use of the word harmony, and the idea of cooperation. Here is the purpose of a standard, to provide a common base, common ground, on which all may work together, cooperatively, harmoniously, for the common good. Through standardization of the coupling threads your product and mine are coordinated and, to our mutual advantage, your industrial effort and mine are coordinated for the common welfare. Your market is enlarged and so is mine. At the same time we are jointly offering the public a protective service instead of a frustrating, exasperating, needless hazard.

Now perhaps the construction of a building is not as dramatic as fighting a fire. The same element of emergency is perhaps not present. But we are still concerned with public safety. It is just as essential for our protection that the elements of the construction industry be coordinated as it is that the elements of the fire fighting industry be brought into harmony. In building we have municipal safety, owner requirements, architectural concepts, building components and materials manufacturing, engineering practices, and construction methods all involved in the same operation. We have more than a question of fit as in the hose to the hydrant. We have materials applications, design principles, functional requirements. Our conflict of interest may be considerably greater than that between your hydrant and my hose. The job of coordination of these many elements is big but coordination we must have if buildings are to be erected and if we are to enter them safely when they are erected. And standards can and do provide that coordination.

Take, for example, the American Standard Minimum Design Loads for Buildings, A58.1-1955. As an agreed statement of loads to be supported, architects and engineers may proceed with design. Materials may be manufactured and selected to sustain those loads—no question of lightening the loads to get by with an inferior material or design. The contractor's methods may be adopted and repeated with an assurance which applies to all his work under the standard. Code enforcement officials need not be confronted with constantly varying, individually calculated loads or with repeated questions and decisions on design adequacy. The building is erected with confidence and with safety, and it is a safe structure for the occupants and the community. By simple agreement on a sound basis on which to operate, the efforts of all concerned with this building have been coordinated. It's as simple as that. Just as standardizing the length of an inch makes it possible for you to tell me what you want made or built, and for me to build it or make it, and for it to be readily assembled with parts and materials from other sources into a usable design whole,

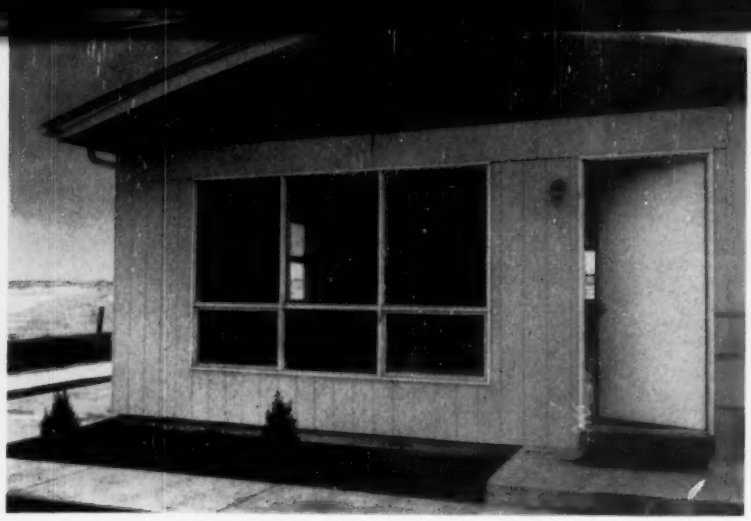
so standardizing the building loads makes it possible for all of us to work together toward the same objective. Our individual efforts start from the same platform. Our work is coordinated through having a common footing in the form of a standard.

Now let's look at this all-important characteristic called consensus. Without a supporting consensus a standard is not a standard. This is not an arbitrary requirement but an element of the definition, of the very concept of the term standard. We have a variety of specially refined definitions for the word but even Webster defines a standard as "that which is established by authority, custom, or *general consent* as a model or example; criterion; test; in general a definite level, degree, material, character, quality, or the like viewed as that which is proper and adequate for a given purpose." General consent, or consensus, you see, is a requirement. A standard is not something supported by a mere majority such as a piece of congressional legislation. A standard is more democratic than democracy. It must be *generally* acceptable.

It follows therefore that a standard represents the last word at the moment of its development, the ultimate authority. There is no argument against a standard, no appeal, because there is no source of opposition. Having been generally accepted a standard is not subject to criticism—all those who would be in a position to criticize have accepted it and eliminated the possibility of criticism. It is for this reason obviously that American Standards are accorded such respect in the courts. It is for this reason that the DA's office called ASA following the Coliseum floor collapse to ask if American Standards existed covering the work being done there. An American Standard on that subject would have represented recognized practice, the summation of all authoritative knowledge and experience on that operation, the final say, in a sense the court of highest appeal, any violation of which would serve as the basis of court action regardless of the statutory standing of the standard. Failure to comply with a standard is action contrary to the best interests and agreed requirements of all concerned. It is thus somewhat comparable to a violation of law. It represents so to speak an individual action against society—against all the principles and the behavior approved and accepted by society.

Any of the standards you use will exemplify this consensus idea, but take again the American Standard A58 on design loads. Was this written by an architect? by an engineer? by a building official? No, the opinions of each are reflected in the standard, but the authorship is practically anonymous. Under the sponsorship of the National Bureau of Standards, a sectional committee prepared this standard—a committee composed of experts representing the interests mentioned and all other national groups concerned with this subject. The standard is the result of cooperative endeavor and did not become a standard until agreement—a consensus—had been reached among the parties to this subject, all of whom were represented on the committee. And note that the building official is very definitely a party to this work. He utilizes these standards and he is well represented in their development and approval. Under the consensus principle it could not be otherwise even if it were desired by one of the parties. His voice is essential and his contribution to the development of American Standard minimum design loads, as to other standards has been most impressive and extremely valuable.

The third feature of interest, compliance, automatically follows the application of the consensus principle. It stands to reason that when agreement has been reached among those concerned with a given subject, and that agreement has been reduced to writing in the form of a standard, those who participated in that agreement will be anxious to live up to its provisions and to see that others do also. There is, for one thing, a strong moral obligation on any of us to obey the rules we have created. Secondly, we have a natural and a proud interest in what we ourselves have done. We are therefore anxious that our work be respected and be effective. As something which satisfies our requirements, meets our wishes, serves and protects our interests, a standard is something we shall want to use ourselves and want to



Photos Courtesy House & Home

Today's builders *need up-to-date, uniform building code requirements. Here, when using 1957 mass production methods, builder Bob Schleicher, Gar , Indiana, saves manhours and materials with shop fabrication. Wall panel is built on jig table (left); entire wall panel is lifted into place (center); how panels look when house is finished (right).*

see used by others. Thus compliance with a standard is generally assured. Those directly affected by the standard and thus those who created it are bound to utilize and promulgate that standard. A compelling force is thus generated toward universal compliance. General conformity is the normal expectation. The enforcement problem is eliminated or greatly reduced. The need for policing is eliminated or minimized. The standard is its own policeman—the preponderant weight of its support polices more effectively and more thoroughly than could a multitude of enforcement officers.

As an example of this compliance, let's look at what we call common law. Perhaps it has not occurred to you to compare common law with standards, but by their very definitions our common law is but a set of standards governing man's behavior. As such, these standards are so well respected that they do not even need enactment into statutes. This system of jurisprudence derives from our mutual agreement as to what behavior is acceptable for our common welfare. It represents the will of the people—a consensus. What has to be done to encourage or assure compliance? Do we not all obey the common law—naturally, normally? We created it, we want it, we need it to live together as a society, we subscribe to it, we endorse it, we conform and expect and demand that all others conform. This is compliance—compliance to be expected from the strength of the standard and all that lies behind it.

The National Electrical Code is an example of a more formal standard, compliance with which I am sure you will agree is unquestioned, as is compliance with the Underwriters' Laboratories standards for wire, wiring devices, and appliances. All those connected with electrical work have agreed that these are the standards which must be met in order to assure our common safety and the successful operation of the equipment and use of the products. Is not compliance the rule rather than the exception? Do not these standards simplify the inspection operation? Such standards as the basis for municipal regulations offer a solid backing, a support for the enforcement officer not otherwise obtainable. Should

In 1957, *built-in kitchen equipment and well-designed bathroom replace 1857's coal stove and lack of running water.*

Photographer: Douglas M. Simmonds. Architects: Howell-Arendt-Mosher-Grant.

This laboratory, *designed and built in accordance with the Modular Method, is now in use by the Trane Company, La Crosse, Wisconsin. Magney, Tusler & Setter, architects and engineers of Minneapolis, Minn., designed the building.*

objections be raised to any of the provisions, the official cannot be accused of having dreamed them up. They are not peculiar or individual requirements but standard requirements supported by prestige, by consensus. Compliance can be both more easily demanded and more readily expected. I feel quite sure that the experience of building officials with other nationally recognized standards will bear this out. Do building inspectors have the problems with subjects treated by the Reinforced Concrete Code or the Steel Code that they do with other subjects? Is not compliance with these codes practically a foregone conclusion? Can they not anticipate ready conformance with the provisions of these codes without undue difficulty? These codes are standards. They are, in fact, American Standards. It is established practice to construct in accordance with their provisions. Standards then, because of these features — the three C's, coordination, consensus, and compliance — should have real value to building officials. Standards are tools, and you can make good use of those tools. They do not come cheaply. Some represent a surprisingly large investment in time and money. This investment would not be made if it were not warranted by the purpose. At considerable cost you have been presented with an assortment of quality tools which should be extremely helpful to you. They should make your work less strenuous and less difficult. Because a standard represents the pooling of the expert knowledge on that subject; because it thus represents the summation of the available information and experience translated into a workable guide; because it is therefore *the* word on that subject; because it carries the weight of acceptance; because a standard has already resolved opposing or conflicting points of view; and because knowledge of the existence of a standard has already been disseminated, you in the application of that standard are relieved of uncertainty, of the danger of friction, of the need for arbitrary decisions. In the standard you have an incomparable authority designed to bring us all into harmony and to assure safe, economic construction to the benefit of the entire industry and all concerned with that construction.

Where Standards are Available

It is confusing to read the long list and many references to ACI, ASTM, NBFU, NFPA, and all the other alphabetic designations, but these are simply identifications of the source of the material and of the organization by which it was developed or approved, all of which really can be easily explained. The important thing, however, is that these designations apply to standards and standards can be helpful to you. It is regrettable that these standards cannot all be combined, along with the building code, in one neat package. This, at the present, is not practicable, unfortunately, although the problem is recognized and improvement can be expected in due course. One of the stated objectives of the American Standards Association is in fact the solution of this problem through the establishment of a single, consistent set of national standards identified as American Standards; through the welding of conflicting standards into single, national standards; through the pulling together, the coordinating, the harmonizing of all standards and standardization activity at the national level; to the end that all of this valuable material will be available in one series of standards.

Why Duplicate Work?

The need already has been recognized for grouping those standards from the various sources which are currently in use. However, the standards have such significant value that their use is dictated now regardless of the convenience of the arrangement. They are used in conjunction with building codes because of the advantages they offer. That is to say, a big job has been done by the nationally eminent authorities on a particular subject. The results of their work are free to use. Why duplicate the work at the local level? Why spend more time and money on unnecessary additional work? Why develop different or conflicting requirements? Why be individualistic? Why be satisfied with possibly less than the best? Why not take advantage of the best thinking on the subject, which is already available in the form of nationally recognized standards? Adoption of the standards will save time, money, and effort on the part of the code-writing body and at the same time provide the building official with a set of requirements on these subjects which are in line with nationally recognized practice. Use American Standards—they can help you.

NEWS BRIEFS.....

• The International Organization for Standardization has announced two new technical committees, one on fiber building board, ISO/TC 89, with the German member body as secretariat; and the other on cork, ISO/TC 87, with the Portuguese member body as secretariat.

Scope of the committee on fiber building board will cover work "to establish international agreement on standardization of specifications — including terminology, dimensions and tolerances, designations, rules for sampling and methods of tests."

Scope of the committee on cork is: "Coordination of the standards of terminology, characteristics and tests of cork, considered both as a raw material and as a manufactured product, and of derivatives of cork."

• Reports indicate that Swedish industry has started to change its production of Whitworth screw threads to Unified Screw Threads. Representatives of the Swedish standards committees on screw threads visited England early this year to study British industrial experience in adopting the Unified Thread.

• Progress on worldwide standards to facilitate the sale of plastics in world markets was made at a meeting of the International Organization for Standardization's committee on plastics at Burgenstock, Switzerland, in July. C. Howard Adams, Monsanto Chemical Company, St Louis, leader of the eight-man U.S. delegation to the meeting of ISO/TC61, reported action on 16 test methods for plastics. "This committee is laying the foundation for the free flow of raw materials and finished plastic goods into world markets," he said.

Ninety-five delegates from 16 countries attended the meetings. U.S. delegates were accredited to the meeting by the American Standards Association, U.S. member of the 38-country ISO.

Four of the 16 test methods were reviewed at the meeting and approved to be sent to the ISO Council for final action. On approval by the Council, they will become ISO Recommendations. These methods cover determination of boiling water absorption of plastics (conventional method), determination of percentage methanol, soluble matter of polystyrene, determination of free ammonia and ammonium compounds in phenol formaldehyde moldings (semi-quantitative method).

The technical committee has also approved for member-body consideration a list of equivalent terms in the three official languages of the ISO—English, French, and Russian. The publication will contain 850 terms. An appendix will contain the terms in German, Spanish, and Italian. An additional appendix will carry unofficial definitions so that other countries can build a list of equivalent terms in their own languages.

Dr G.M. Kline of the National Bureau of Standards is the U.S. member of the working group on equivalent terms. He was also chairman of this year's meeting of ISO Technical Committee 61.

The American Standards Association holds the secretariat of Technical Committee 61. Eight working groups of the committee have more than 75 international standards under development. Most of these deal with test methods.

Delegates to the meeting were Mr Adams, Dr Kline, Dr N.A. Skow (Society of Plastics Engineers) director of research, Synthane Corporation, Oaks, Pa., who is secretary of the committee; Robert Burns, executive secretary, Materials Advisory Board, National Academy of Sciences, Washington, D.C.; Alfred C. Webber, research supervisor, E.I. du Pont de Nemours and Company, Experimental Station, Wilmington, Delaware; Paul E. Willard, research director, Ohio-Apex Division, Food Machinery and Chemical Corporation, Nitro, West Virginia; Ralph K. Witt, associate professor of Chemical Engineering, John Hopkins University, Baltimore; and E.Y. Walford, manager, Plastics Technical Service, Koppers Company, Inc, Chemical Division, Pittsburgh.

The Eighth Annual Meeting of ISO/TC61 will be held in Washington, D.C., November 3-8, 1958.

• A new policy on which the American Standards Association will determine, in the future, which standards are suitable for approval as American Standard is now in effect. Both the Board of Directors and the Standards Council have voted in favor of it. In order to be suitable for approval by the American Standards Association, the policy states: "A standard shall be sufficiently definite and conclusive to form a criterion by which one skilled in the art may determine whether material, work, product, process, procedure, operation, or usage conforms to the standard."

Believing that there might be some question as to the meaning of the

U. S. delegation *at meeting of ISO/TC 61, Plastics. Left to right: N. A. Skow; G. M. Kline; R. K. Witt; Robert Burns; C. Howard Adams; E. Y. Wolford; Paul E. Willard; A. C. Webber.*

term "one skilled in the art," the Board and the Council also approved an explanation. It says:

"A word should be added in reference to the inclusion of the patent office phrase 'one skilled in the art.' If some such condition or acceptance were not included, the definition would be too strict to be practicable. In the traffic colors, for example, the question immediately arises as to what is red, what is green, or yellow. If a standard requires that the length of a test specimen shall be three inches, the question immediately arises as to what is meant by three inches. Must it be accurate to a tenth of an inch, or a ten thousandth of an inch? If flexibility were not introduced by some such phrase as 'one skilled in the art' every dimension would have to be accompanied by a tolerance. Similarly, every temperature or any other numerical value would have to be accompanied by a tolerance if the standard were to be strictly complied with. 'One skilled in the art' will know whether the length or the temperature or other technical provision is of primary importance, or of only secondary importance in the standard. Many such secondary factors are customarily left to the trained judgment of the man who is using the standard."

• The National Bureau of Standards is discontinuing calibration of viscometers as of January 1, 1958. This is in line with the Federal Government's general policy of withdrawing from activities that can be carried on by private industry, the Bureau reports. Most users of these instruments now carry out the calibrations in their own laboratories using viscosity standards available from the National Bureau of Standards, the American Petroleum Institute, or other organizations. The new policy will permit the Bureau to devote more of its resources toward meeting the demands of science and industry for new and more accurate standards, it is explained.

• Shri T.V. Joseph of the Indian Standards Institution has been appointed by the ISI to develop India's extensive steel standardization program. Recently he visited the British Standards Institution where he discussed the effect of India's change to the metric system on standardization of a series of preferred metric sizes for steel plates, sections, and bars. The main object of his talks was the alignment of the proposed Indian metric sizes, wherever possible, with the existing British series.

• R.L. Richards, formerly a senior technical officer on the staff of the British Standards Institution, has been appointed first Manager of the new Central African Standards Association. Mr Richards is a metallurgical engineer who served for four years as a technical officer with the Standards Association of Australia. He had been with the BSI for nine years. Headquarters of the Central African Standards Association are in Salisbury, Southern Rhodesia.

• Kenneth H. Ripnen, president of Kenneth H. Ripnen Company, has been appointed to the Standards Council of the American Standards Association, representing the National Office Management Association.

Mr Ripnen's standards activities with NOMA began in 1947 with a term of service as a member of their Physical and Physiological Factors Division of the Standards Committee.

Mr Ripnen is a licensed architect in several states and member of the American Institute of Architects. He is president and chief executive architect of his firm, which for 27 years has been active mainly in the field of office building and office layout planning. He has closely followed the management field since being the first president of NOMA's Washington, D.C. Chapter in 1943. He is a member of the American Management Association, and since 1932 has been a member of the New York Chapter of NOMA.

From 1942 through 1946, as a major in the Army, Mr Ripnen served as space officer in the Office of the Army Headquarters Commandant, War Department, Washington, D.C. In this role he organized and administered the space control operation in the Washington area which involved 7,000,000 square feet of space for 125 organizations and 63,000 people in 60 buildings, including the Pentagon.

He has written numerous articles and delivered many talks on the various phases of office space. His company has been active in space administration for the corporation field since its inception, having planned, built, and equipped offices and office buildings for many of the larger industrial and business corporations.

• Early this year, standards engineers of companies in the United Kingdom met at Church House, Westminster, for a conference on the practical application of standards. Subjects discussed included the role of national and company standards; the development of a coding system for British Standards; and international standards work.

• The new American Standard Glossary of Terms in Nuclear Science and Technology, announced jointly by the American Standards Association and the American Society of Mechanical Engineers late this summer, is designed to provide a common language among medical men, engineers, chemists, physicists, biologists, and others working with the atom. It includes three categories of terms: those invented expressly for the field of nuclear energy; those borrowed from other fields and employed here with different meanings; and those used elsewhere, but which may be unfamiliar to nuclear workers. Definitions, tables, charts, and formulae considered useful are included in the glossary.

Among terms coined since the beginning of the atomic age are informal expressions which have achieved official status by inclusion in the glossary, such as "coffin" (a container for radioactive materials), "graveyard" (a place for storing burying containers of radioactive materials), and "parent" (an atom

which splits to form "daughter atoms").

Approval by the American Standards Association is the culmination of a long project begun in 1948 by 21 technical societies with interests in the nuclear energy field. Instead of proceeding with limited glossaries, they joined to pool their efforts toward one comprehensive listing. The National Research Council was chosen as coordinating body and since the ASME had made the most progress on a comprehensive directory, it was decided to use their work as a base. Other organizations worked on specific parts which were reviewed and revised by National Research Council's Board of Critics. The glossary, in nine separate sections, was published as a proposed American Standard for trial use in 1953. A combined version was printed in 1955. The National Research Council, which is the copyright owner, submitted the newest glossary for approval as an American Standard in 1956. This version, containing additions and corrections, was published as an ASME Standard early in 1957, and served as a draft for approval by the American Standards Association.

That the glossary has already found wide acceptance is evidenced by the fact that preliminary drafts were requested for use at the 1955 International Geneva Conference on Peacetime Atomic Energy and the 1957 Nuclear Congress in Philadelphia. Advance copies of the American Standard were studied at the Geneva meeting of the International Organization for Standardization's Nuclear Energy Committee which met July 29-August 1. In addition, many authors and magazines have excerpted parts of the text and the British Standards Institution is using the American version as a base for its own dictionary.

Copies of the glossary, American Standard N1.1-1957, may be obtained, at $5.00 each, from the American Standards Association as well as from The American Society of Mechanical Engineers.

Colors for Farm Safety

A NEW use has been found for the American Standard Safety Color Code for Marking of Physical Hazards and Identification of Certain Equipment, Z53.1-1953. The standard colors are now being applied to agricultural safety. Recently, the National Conference for Farm Safety adopted a color code based on the American Standard for use in farm buildings and on stationary farm equipment. The Vocational Agricultural Service of the College of Agriculture, University of Illinois, has adapted the Conference code for use in its teacher training shop, and for application in high school farm mechanics shops, as well as in home farm shops.

Although the standard was originally prepared with industrial safety in mind, it is easily adaptable to farm use, J. W. Matthews, Assistant Professor of Vocational Agriculture and Agricultural Engineering of the University of Illinois, explains. As in industry, he says, red identifies fire protection equipment, and indicates "danger" and "stop." It is applied to fire protection equipment, such as fire extinguishers, fire buckets, hose and ladder locations. Red is also applied to emergency control devices for hazardous parts of stationary equipment. Unlike the American Standard which calls for the use of safety cans painted red for all flammable liquids, the standard for farm safety provides the use of red for cans, drums, barrels, or other portable type containers used only for gasoline.

Orange is used where it is desirable and practical to designate dangerous parts of machines or equipment which may cut, crush, shock or otherwise injure. It is also used to call attention to open enclosure doors, and to designate exposed hazards when shields or guards have been removed. Orange may apply to exposed parts (edges only) of pulleys and gears, to interior surface of doors of fuse and electrical power boxes, and to the inside of inspection doors, guards, and shields, which when not in place or not closed expose a hazard.

Yellow is the basic color for marking physical hazards that may cause the farmer or his workman to injure himself by striking against something, by stumbling, or by falling or tripping. It would be used to mark projections, doorways, stairways, posts, abrupt changes in floor level, low beams, and pipes, as well as levers, handles, and adjustment devices on power tools.

Green is the color used for designating the location of safety and first aid equipment, other than fire-fighting equipment.

Blue is the fifth color adopted for use in farm shops. It is used to designate electrical controls and to caution against starting equipment that is being worked on, or to caution against defective equipment. For example, the farm safety standard advises that a large blue tag with the words "Do not operate" is to be hung on any machine that is out of order and not to be used until repaired or replaced.

Mr. Matthews reports that a considerable number of school farm shops in Illinois are using this color code. Some have adopted the complete system while others have applied only part of it. "Under school or home farm shop conditions, we think of a color code as more of a 'gadget' or 'gimmick' by means of which young people can be motivated to follow safe operating practices and to develop a safety consciousness," Mr Matthews declares. "Color also improves the appearance of our shops and makes for better housekeeping."

To help in putting the safety color system into effect, the University of Illinois Vocational Agricultural Service has produced a slide film which shows the step-by-step process. The film is available from the Service at a small fee.

• Considerable attention was given to standardization at the session on exchange of essential information between trade associations, firms, and government departments, during the International Congress on Scientific Management at Paris early this year. Among the delegates were Dr Harold S. Osborne, formerly vice president of the ASA, and Vice Admiral G.F. Hussey, Jr, USN (ret), managing director. Both contributed to the discussion stressing the use of standardization as a tool of management.

• A major step has been taken in standardization in the field of crystal units. The United States group in charge of formulating the USA viewpoint on international questions in this field has approved the first document to be completed by the International Electrotechnical Commission's committee SC/40-3 on quartz crystals. This document, completed after only two years of work, is the first part of International Recommendations on quartz crystal units for oscillators. It relates principally to quartz crystal unit outlines and agreements on dimensions for them. Work on other parts is going forward.

These proposed International Recommendations are in complete agreement with the standards agreed to in the USA—in industry by the Electronic Industries Association (formerly the Radio-Electronic-Television Manufacturers Association), in the Department of Defense by ASESA (the Armed Services Electro-Standards Agency), and by the NATO organization.

"This is a major step forward in standardization in the field of quartz crystal units since the all-important requirement of interchangeability has been met so completely by all organizations concerned," says R.A. Sykes, Bell Telephone Laboratories, Whippany, N.J., member of IEC/SC40-3.

A "Best Investment"

Standards are one of our best investments, says E.G. Unrath, vice-president, manufacturing, The National Supply Company. Mr Unrath made the statement in an article describing his company's standards program published in the 1957 Equipment Reference Issue of the *Petroleum Engineer*.

"In our constant struggle against the cost-profit squeeze, we have in our company found one effective tool which perhaps is not as widely understood as it deserves—that is standardization," he explains. Mr Unrath refers to the development of company standards, the application of ready-made national standards, and participation on standards committees of trade and professional organizations in formulation of new standards and revision of old ones.

The Ambridge plant of the National Supply Company, which makes seamless tubular products, including drill pipe, casing, and tubing for the oil industry, and pressure and mechanical tubing for other uses, is the example cited in Mr Unrath's article. About 80 percent of the plant's output is made to standards of the American Petroleum Institute or other industry standards, he reports. Standardization at this plant is under the close control of the Standards Department, and covers engineering, production, systems, procedures, and office forms. A program for greater standardization of purchased products is also well advanced, and progress is being made in standardizing all requirements for maintenance, repair, and operating supplies. The Accounting Department sets up standard production costs, based on standard production times and standards material requirements for manufactured products. The Accounting Department has also introduced throughout the organization standard accounting methods and forms including standard records and financial statements. "In view of our many hundred individual operations scattered all over the world, these standards are invaluable," Mr Unrath declares. "They not only reduce the actual cost of keeping our accounts, but they also make it possible to have inventory figures and financial results available much earlier than was the case with nonstandard methods previously used. We are thus able to make more promptly decisions on production, purchases, sales, and general company policy."

It has been estimated that the oil industry saves about 10 percent on all its purchases of equipment covered by API standards, Mr Unrath points out. Based on that estimate, and on the annual value of equipment purchased, which today probably exceeds $1 billion, Mr Unrath estimates the yearly savings of the oil industry through API standards alone would be about $100 million.

However, he believes this is a very conservative estimate.

Mr Unrath points to the export field as an example of some of the most obvious advantages derived from standards. "With the acceptance of API standards all over the world, we became competitive everywhere," he says. "Our export business has shown a spectacular growth. During the last six years it expanded twice as fast as our domestic business. This would not have been possible without international standards for our products."

Participation in national standards activities, including committees under the procedures of the American Standards Association, keeps more than 20 executives active at any one time. This represents a substantial expense to the company in executive time, but the company subscribes to all association standards that have a bearing on its business and points to its participation in national standards activities as one of the best proofs of how much standards are worth to the company.

"We firmly believe that these costs are small in relation to the returns we get," Mr Unrath declares.

ARE THESE CASES WORK INJURIES?

Rulings of the Committee on Interpretations are now being issued on whether unusual industrial injury cases are to be counted as "work injuries" under the revised edition of American Standard Method of Recording and Measuring Work-Injury Experience, Z16.1-1954. Sponsors of ASA Sectional Committee Z16 are the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

Case numbers in the new series start with 400. The cases below represent the eleventh installment in the series under the revised edition of the standard. The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply.

Cases 400-500 are being reprinted with an index prepared by the National Safety Council. To make it easy to locate all cases applying to any section of the standard, the index is arranged both numerically by paragraph number of the standard and numerically by case number. Each index reference includes a brief description of the case. Reprints are 75 cents per copy, available from ASA. Liberal discounts are offered for quantity orders.

CASE 529 (5.2)

An employee was performing her normal, regular duties which involved stamping plastic composition boxes 10 inches by 17 inches by 9 inches, weighing 12 pounds. She normally grasped these boxes by the top edge at both ends, slid them off the bench one at a time, and carried them about 10 feet to a machine. In this case she grasped the near end of the box with her right hand and started to slide the box toward the edge of the bench. As she reached over to grasp the far end of the box with her left hand, her wrist watch struck against a small machine on the bench. She hesitated momentarily, and at that moment the box had reached a position such that the weight of it caused it to tilt forward and start slipping from the bench. The employee was still holding on to it, but in attempting to keep it from falling, she twisted her back.

The employee continued to work the following week, at the close of which she asked permission for time off to see her doctor, stating she had a sore back, but not mentioning any injury. She was absent from work for three weeks during which time a fellow worker told the supervisor that the employee had twisted her back on the job.

Decision: This injury should be included in the work injury rates on the basis that there was a clear record of an incident.

CASE 530 (5.18)

A maintenance employee pinched the end of his left index finger while adjusting a machine. The company doctor treated the injury, and there was no time lost. Following the removal of the splint, the finger tended to drop at the distal joint and some loss of feeling was noted. The finger was reopened to repair a damaged tendon, but no time was lost as a result of the operation.

The employee reported that feeling had been restored and that he could move and control the finger quite well. However, the employee could not straighten the end joint of his finger less than 15 degrees to a straight line, and the doctor believed the employee had around 5 percent permanent partial disability of the finger.

Decision: This injury should be included in the work injury rates as a permanent partial disability with a time charge computed as a percentage of the time charge for amputation of the finger.

CASE 531 (1.6)

A laborer entered a washroom at quitting time, and after washing his hands, removed a paper towel from the dispenser. As he removed the towel, it cut across his eye. He reported to work each following day; there was apparently no permanent damage to the eye.

The employee washed his hands because they were dirty from work, but also because he had used the toilet. The question was whether such an injury should be included in the work injury rates if (1) the employee had washed his hands because of work, (2) the employee had washed his hands because he went to the toilet, or (3) the employee had washed his hands because of work and going to the toilet.

Decision: The committee concluded that an injury resulting from any of the three circumstances mentioned should be considered as arising out of employment.

CASE 532 (1.6)

An employee worked in an area where there was a question regarding the noise level, and a survey was being made which involved audiometer tests as well as a noise level survey. In the course of the audiometer tests it was found that the employee had reduced hearing due to wax in his ear. He was referred to the medical department, and had his ear irrigated to remove the wax. An infection of the ear developed.

Decision: This incident should not be included in the work injury rates. The committee concluded that the removal of the wax was done as a service to this employee; the formation of wax in his ear was not caused by his employment.

CASE 533 (1.6)

While taking a drink at a fountain, an employee was bumped by an engine mount which was being rolled out of the cleaning room. When he was bumped his tooth hit the fountain and was broken off. Although the tooth was false in a partial plate, the dental work required to repair the damage also involved the employee's permanent teeth. One day of lost time resulted.

Decision: This injury should be included in the work injury rates. The committee concluded that while the accident itself did not injure any permanent teeth, the repair work did involve permanent teeth and loss of time, and the injury should be charged.

CASE 534 (4.5)

Hypothetical case. No formal decision.

CASE 535 (5.2)

A cutter helper, as part of his regular work, was carrying 125-175 lb sheets with a fellow worker from the cutter table onto the pallet about eight feet away. He felt a pain in his back and reported to his foreman, but continued to work for the balance of his shift. The next day the employee's back was too sore for him to work, and he re-

ported to first aid. The doctor diagnosed the back condition as lumbo-sacral strain, and advised the employee to remain away from work to rest his back.
Decision: This injury should be included in the work injury rates. The committee concluded that the lifting of 125-175 lb of paper should be considered as over exertion.

CASE 536 (5.2)

Borderline case. Does not set a precedent.

CASE 537 (5.2)

An employee, as part of his regular work, was carrying 125-175 lb sheets with the help of a fellow worker from the cutter to the pallet about eight feet away. His back began to bother him, and became increasingly painful over a period of several days. He reported to the plant nurse, was treated, and referred to his doctor, who diagnosed the condition as infro-scalpular strain, and advised lighter work. The company was unable to provide lighter work, and the employee stayed home, thereby losing time from work.
Decision: This injury should be included in the work injury rates. The committee concluded that the minor initial injury became aggravated through further exposure and non-treatment.

CASE 538 (5.2)

A man was lifting 80-lb squeback bricks by hand from one skid to another. After handling one of the bricks he straightened up, and had a pain in the lower back region. Four days later he was bending over, sorting small fire brick. When the job was completed he had considerable difficulty in standing erect and walking. The doctor diagnosed the case as a sprained back, and the employee lost time from work.
Decision: This injury should be included in the work injury rates. The committee concluded that there was overexertion in this employee's stooping to handle the small bricks because of his physical condition as a result of what had happened four days before.

CASE 539 (5.2)

An employee was driving a company car, and stopped opposite a school bus that was stopped to take on school children. A truck headed in the same direction as the employee also attempted to stop, but due to the muddy condition of the road it skidded and crashed into the rear end of the company car. The impact caused the employee's head to snap backwards.

The employee received treatment and x-rays from two different doctors on and off for a year without losing any time. A year later the employee did lose time from work because of an operation on his back.
Decision: This injury should be included in the work injury rates. The committee concluded that all reporting and time charges for the injury should be included in the rates for the year in which the accident occurred. The members believed that the automobile accident arose out of employment, and the time charges should include all of the time lost by the employee.

CASE 540 (5.18)

A chemist got a splash of dilute caustic soda on his face which was treated by a red product. Although the plant doctor and specialist both told the employee he could go right back to normal work, he did not do so because of the color of his face. He lost time from work for this reason only, since the face did not even pain.
Decision: This injury should not be included in the work injury rates. The committee concluded that the employee lost time because of his own choice, and not in accordance with the instructions of the doctors. The case should be classified as a medical treatment case.

CASE 541 (5.5)

An employee in the process of placing a door panel on a rack stooped to go under the upper part of the rack to shove the panel back. As he was coming back from under the upper part of the rack, he bumped his head. In anger, he grabbed the next panel and threw it onto the rack with such force that the panel hit the rear of the rack and bounced back towards the employee. He then made a wide swing with his left arm to stop the panel, and as he did so he missed the panel, which hit his wrist, cutting it. His wrist was not protected due to the fact that the safety sleeve slid up his arm when he made the wide swing.

He was admitted to the hospital that same day and was hospitalized for 1½ days to make sure the sutures held. At the end of this time the doctor said that the employee could be returned to a one-handed job, of which one was open and available to him. However, the employee did not report for work until the fourth day following the accident.
accident.
Decision: This injury should be included in the work injury rates. The committee did not believe that the fact that this employee lost his temper changed the status of the injury; he apparently lost his temper over conditions related to his employment. The members decided that the days away from work after the doctor said he could return to work need not be included in the time charges.

CASE 542 (5.1)

A welder had finished working on a pump rotor positioned on a dynamic balancing machine, and jumped to the floor from the metal table on which he had been standing, a height of 40 inches. He landed squarely on both feet simultaneously, and did not slip or fall. As he landed he felt a pulling sensation in his left groin, but not considering it serious at the time, he did not report to his foreman for another hour. At that time he was sent to the plant hospital where examination revealed a left indirect inguinal hernia.
Decision: This injury should be included in the work injury rates. The committee believed that this case met the requirements of 5.1, and should, therefore, be counted as an industrial injury.

CASE 543 (5.2)

An employee engaged in digging a trench in which to bury a run of pipe was working in an area which was transversed by several overhead pipes. Because of the limited space under the pipes, he had to work from a squatting or kneeling position. On the first day he worked in this position on and off for about five hours, taking time out to stretch or to perform other tasks. On the second day, after working about three hours, the employee complained that his back was sore. The soreness persisted, so he was taken to a physician for examination. There was no indication that an accident had occurred, such as a slip, twist, or fall. At first the physician reported the condition as acute back strain, but later tests revealed that the employee had a protruded herniated intervertebral disc. This was corrected by surgery.
Decision: This injury should be included in the work injury rates. The committee believed that the employee was working under unusual circumstances which could be classified as overexertion. Without information to the contrary, the members concluded that the disability could have been caused by the activities described.

CASE 544 (1.6)

Borderline case. Does not set a precedent.

CASE 545 (5.13)

On August 4 an employee injured his back while unloading coal from a railroad car. He was hospitalized on August 4, and was released from the hospital on August 6. He returned to work on his next regularly scheduled shift, August 10.

The doctor stated that he would have released the man from the hospital on August 5, but because no x-ray technicians were available on August 4 it was necessary for the doctor to keep the man in the hospital until August 6. The doctor was sure that had he been able to get x-ray pictures made sooner, the employee would have returned to work on his next regularly scheduled shift on August 5.
Decision: This injury should be included in the work injury rates. The committee concluded that paragraph 5.13 was limited to injuries which had a delayed effect, and could not be used in a case such as this.

FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering copies of standards, please refer to the number following the title.

003.62 SIGNS, NOTATIONS, SYMBOLS

Finland (SFS)

Quantities and units A.I.15

Germany (DNA)

Letter symbols used in calculation of tensile strength DIN 1350

Japan (JISC)

Symbols of electrical units JIS C 0101-1955*

Netherlands (HCNN)

Magnitudes, units and numbers, notation of NEN 3069

Spain (IRATRA)

Letter symbols for different magnitudes, units and dimensions UNE 5009

621.3 ELECTRICAL ENGINEERING

Australia (SAA)

Earth-leakage circuit-breakers C.110-1956 Ap.

Miniature over-current circuit-breakers C.111-1956 Ap.

Wooden base blocks (for mounting electrical accessories) C.315-1956

Brazil (ABNT)

Vocabulary of electrical terms (1st part—group 20) TB-19R

Bulgaria

Low voltage electrical installations, permissable temperature on bus-bars and contact points BDS 2178

Electrical pads BDS 2195

Electric measuring apparatus, limit of scales, nominal current and voltage BDS 2175

Shaft height of electric machines BDS 2423

Dielectrics, hard, method of determination of specific, volumetric and surface resistance of BDS 2432

Protective covers of electric cables BDS 2570

3 classes of paper capacitors: 200, 400 and 600 v BDS 2586

Soldering iron, electric BDS 2591

Canada (CSA)

Construction and test of integral-horsepower electric motors for other than hazardous locations C22.2 No.54-1957

Construction and test of power-operated radio devices C22.2 No.1-1957

Construction and test of rectifying equipment C22.2 No.107-1957

Construction and test of domestic clothes-drying machines C22.2 No.112-1957

Czechoslovakia (CSN)

Waves scale for radio receivers CSN 70 90 72

Different types of starters CSN 35 31 50, -61

10 stds for different types of switches CSN series 30 44

Varnished fabric insulating sleeves CSN 34 65 50

Enamelled insulated wires CSN 34 73 30/3

High frequency flexible cord CSN 34 77 17

7 stds for supporting type insulators up to 35 kv for power stations CSN 34 80 07/13

26 stds for high tension overhead power lines CSN series 34 87

Testing of transformers CSN 35 10 84

Explosion-proof transformers CSN 35 11 65

Stairway automatic switches CSN 35 41 25

6 stds for overhead line ferrules CSN 34 88 50/5

Circuit breakers and reversing high tension switches CSN 35 42 10, 35 44 50

Receptacles and plugs up to 60 a, 500 v CSN 35 45 05

Electric automobile starter CSN 30 42 08

System of electrotechnical units CSN 34 52 00

Fluorescent lamps for general use CSN 36 02 75

6 stds for different types of electric servomotors CSN 36 38 20,-22/3, -25/7

Line for transmission of modulating currents CSN 36 60 90

Electric fences CSN 36 49 12

Finland (SFS)

Junction box for lead covered cables C.V.32

3 stds for mounting boards for single- and three-phase meters C.V.33/4, -37

4 stds for suspension type junction boxes C. V.46 thru -49

6 stds for different terminal plates and boxes C.V.50 thru-53, -55/6

Cabinets for meters and distribution panels G.IV.1

France (AFNOR)

Conductors for motor car wiring NF C 32-700

Rotating electric machines. Rules NF C 51-100

Installation rules for electric motor starters NF C 120

Rules for construction and maintenance of electric installations NF C 15-100

Installation rules for discharge lamps for second category of voltage range NF C 15-150

Tungsten filament incandescent lamps NF C 72-100

Cut-out with calibrated fuses for house installations NF C 61-200

Germany (DNA)

10 stds for thru-bushing, ceramic, up to 10 kv and 30 kv, assembly and parts DIN 43641/5

5 stds for oil transformers, self-cooling, three-phase, 50 cycles, up to 40000 kva, 30 kv DIN 42502/4, 42508, 42510

Thru-bushing, outside-inside type up to 1 kv and 3150 ampere DIN 42530

3 stds for overhead line insulators DIN 48060, 48061

Ceramic insulating materials, classification and technical values DIN 40685

Electrolytic capacitors, polarized, 6 to 100 volts, characteristics, testing DIN 41230

Wall bushings for overhead lines for voltage up to 150 kv DIN 48125

Triple jack receptacle DIN 41011

Graphical symbols used in power and telecommunication installations DIN 40714

Supports and clamps for lightning arrester conductors DIN 48827

India (ISI)

6-volt battery-operated community radio receivers IS 1036

Israel (SII)

Electric storage batteries for automobiles: lead acid type SI 87

Cases for storage batteries, lead type for automobiles SI 88

Storage batteries for automobiles, lead acid type: dimensions SI 89

Italy (UNI)

Poles, reinforced concrete, for overhead lines UNI 3795

12 types of standard wire and cable terminal lugs, marine type UNI 3826/37

Japan (JISC)

Radiation-survey meter JIS C 1605-1955*

Pocket dosemeter JIS C 1606-1955*

Geiger-Müller counter for beta-rays JIS C 1901-1955*

Testing method of stability for electrical insulating oil JIS C 2101-1955*

Electrolytic condenser paper JIS C 2301-1955*

Electrical insulating oil JIS C 2320-1955*

Vinyl tape for electrical insulation JIS C 2337-1955*

Commutator segments JIS C 2801-1955*

Dimensions of brushes for electrical machines JIS C 2802-1955*

3 stds for different types of aluminum cables JIS C 3108/10-1955*

Polyvinyl formal wire JIS C 3203-1952*

Three-phase induction motor JIS C 4205-1953*

Three-phase squirrel-cage induction motors for textile machines JIS C 4208-1953*

Single-phase 6 kv pole transformers JIS C 4304-1955*

Pole oil-switches JIS C 4502-1955*

Cone speakers JIS C 5501-1954*

Moulded mica-dielectric capacitors JIS C 6417-1952*

Carbon composition type rotary variable resistors JIS C 6426-1955*

Variable air condenser for radio receiver JIS C 6428-1955*

Bulbs for miners' electrical cap-lamps JIS C 7502-1955*

Small round lamps JIS C 7523-1955*

Instantaneous starting hot cathode fluorescent discharge tube JIS C 7602-1955*

Fluorescent discharge lamp fixtures JIS C 8106-1956*

Fluorescent discharge lamp ballasts JIS C 8108-1956*

Small switches for indoor use JIS C 8304-1955*

Electric conduits (steel) JIS C 8305-1955*

Flexible steel conduit for electrical wiring JIS C 8309-1952*

Bushings for steel conduits JIS C 8332-1955*

Circular surface boxes for steel conduits JIS C 8340-1955*

Surface switch boxes for steel conduits JIS C 8341-1955*

Dry batteries JIS C 8501-1956*

Layer dry batteries JIS C 8504-1956*

Pack dry batteries JIS C 8506-1954*

Sealed-in stationary battery JIS C 8704-1955*

Electric flat irons JIS C 9203-1955*

Japanese electric irons JIS C 9204-1955*

Electric percolators JIS C 9208-1955*
Non-rigid polyvinyl chloride compound JIS K 6723-1955*
2 stds for carbon and graphite electrodes JIS R 7201/2-1955*
Curve pull-off for trolley line JIS E 2201*
Trolley steady brace JIS E 2202*
Feeder anchor clamp JIS E 2203*
Connector JIS E 2204*
3 stds for different ears for copper grooved wires JIS E 2205/7*
2 stds for different clips for trolley lines JIS E 2208/9*
2 stds for iron nickel magnetic alloy sheet and strip JIS H 4532/3*

Netherlands (HCNN)

Power cable joints NEN 2130
Vacuum cleaners and floor-polishers, nomenclature of NEN 3037

New Zealand (NZSI)

Overhead-line connector-boxes 1212, April, 1955

Poland

Automatic dialing telephone, details of PN T-82000
Telephone cables, different sizes PN T-90004
2 stds for insulating materials; method of measuring electrical resistance of PN E-04403,-05
Indicating electrical instruments PN E-06501
Capacitors, paper for telecommunication PN T-80000
Power cable terminal and junction boxes PN B-06592
Electrical heating appliances, general rules PN E-06202
Two-pole plugs and receptacles PN E-93403
Electrical equipment of railway trains PN S-76001
Capacitors, micanite, type KM PN T-80001
Telephone cable with enameled conductors PN T-90008

Switzerland (SNV)

Receptacle and plugs, 2 pole, 10 amp., 250 V, type 11 SNV 24506
Receptacle and plug, 2 pole, 10 amp., 380 V, type 17 SNV 24528
Hot plate, plug-in type SNV 24622
Receptacle for hot plates SNV 24624
3 stds for method for determination of diameter, weight and elasticity of wires VSM 23701/3
2 stds for method for determination of voltage and insulation resistance of conductors VSM 23704/5
2 stds for method for determination of elastic limit of 0.5 and the elongation of wire at rupture VSM 23706/7
Determination of extensibility of varnish insulating layer of wires VSM 23708
Method for rapid winding test of varnish insulated wires VSM 23709
5 stds for method for determination of various defects of insulation of electric wires VSM 23710/1,-13/5
5 stds for specification of round insulated copper wires having varnish insulation L 1.1, L 2.1, L 2.2, L 3.1, L 3.2 VSM 23751/5
Rules for determination of dimensions and weight of coils of winding wires VSM 23892

Union of South Africa (SABS)

Cartridge type electric fuses for low and medium voltages excluding fuse-links SABS 173-1955
Intrinsically safe electrical apparatus and circuits for use in prescribed explosive atmospheres SABS 549-1956
Low voltage insulators AR 19-56 (Recommended Simplified Practice)

United Kingdom (BSI)

Flameproof enclosure of electrical apparatus BS 229:1957
Bitumen-base filling compounds for electrical purposes BS 1858:1957
Electrical performance of rotating electrical machinery BS 2613:1957
Memorandum on standard conditions for use during the testing and pre-conditioning of electrical insulating materials BS 2844:1957
Flexible insulating sleeving for electrical purposes BS 2848:1957
Nickel-iron transformer and choke laminations BS 2857:1956
Trailing cables for mining purposes BS 708:1957
Hard-drawn cadmium-copper conductors for overhead power transmission BS 672:1957

Uruguay (UNIT)

Determination of the restivity of electrical conductors UNIT 119-57
Copper conductors UNIT 120-57

USSR

Measuring instruments for switchboard mounting, basic sizes GOST 5944-57
Electric hydro-turbine generators from 100 to 1000 kw, standard ratings GOST 8323-57
Switchboard panels up to 500 v GOST 8333-57
Storage batteries for radio apparatus GOST 8343-57

672 IRON AND STEEL GOODS GENERALLY

Bulgaria

Milk cans, capacity from 5 to 12 litres BDS 2179
5 stds for different types of anchors BDS 2233/7

Poland (PKN)

Barbed wire PN M-80095 - 55
2 stds for chains, common, farmer's type PN M-80504/5
8 stds for different kind of tacks and nails PN M-series 81

Belgium (IBN)

Hoisting chains NBN 369-56

France (AFNOR)

Metal reels with flanges equal or superior to 750 mm in diameter NF E 52-502

Germany (DNA)

Helical steel springs DIN 2095/7
Roller chains DIN 8180, 8187/8
Oval link steel chain DIN 763
Chain link pins and bushings DIN 7525, B1.3

India (ISI)

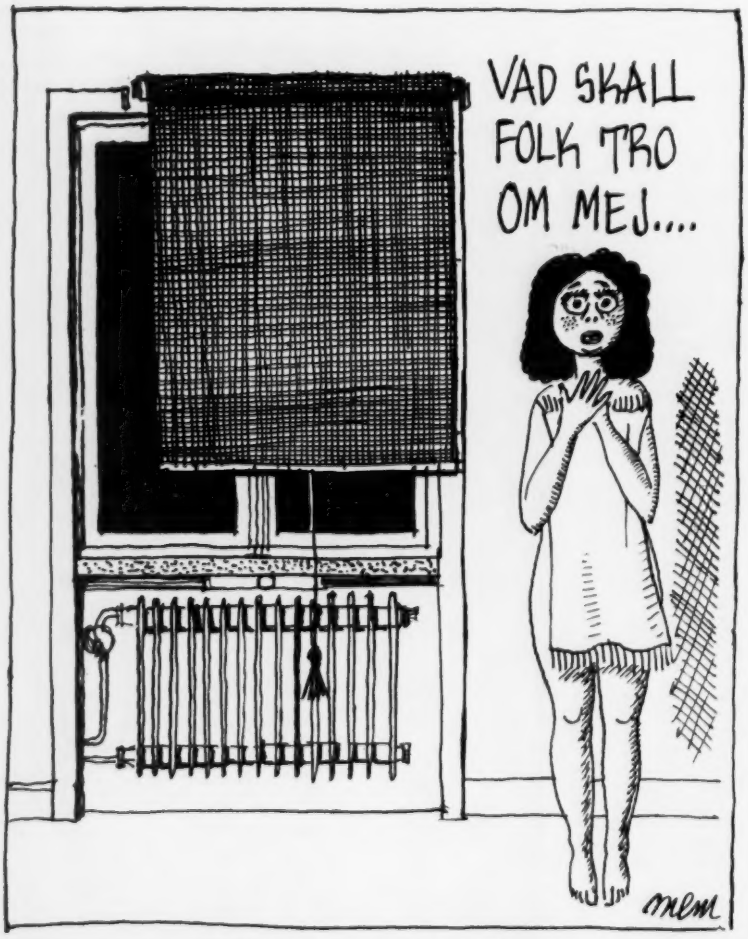
Specification for mild steel buckets IS 726 - 1956

Roumania (CSS)

Roller chain, "flyer" type STAS 4833-55
Roller chains for general use STAS 2607-56
Transmission roller chain used in petroleum industry STAS 5174-56

Israel (SII)

Steel milk cans S.I. 187



"What will people think of me?"
Swedish standards association dramatizes the importance of standard sizes

BOOKS.....

International Electrotechnical Vocabulary. *Group 15. Switchboards and Apparatus for Connection and Regulation. IEC Publication 50 (15). Second edition. 1957. 75 pp. Published by the Central Office of the International Electrotechnical Commission, 1, rue de Varembé, Geneva, Switzerland. (Available from the American Standards Association, 70 E. 45 Street, New York 17, N. Y.) $3.20*

Some 260 terms and definitions in French and English, together with equivalent terms in Dutch, German, Italian, Polish, Spanish, and Swedish are included. Indexes are provided for each of the eight languages.

The second edition of the International Electrotechnical Vocabulary, of which this is Group 15, will contain 22 groups when complete. It is being developed under the patronage and with the financial assistance of the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

The terms and definitions of Group 15 are divided into the following sections: General terms; types of construction and physical protection; constructional elements; operation; characteristic quantities; circuit-making and circuit-breaking devices; mechanical relays; fuses; plugs, sockets, and lampholders; apparatus for starting and control; apparatus for protection against surges or over-currents; switchboards, cubicles, and boxes; accessories for electric wiring; power station accessories.

The Industrial Chemistry, Properties, and Application of Silicones. *By Charles E. Reed. 1956. 47 pp. American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa.* $1.50

This Edgar Marburg Lecture, presented before the 59th Annual Meeting of the American Society for Testing Materials, recognizes the importance of silicones—the relatively new group of synthetic engineering materials. The lecture reviews the basic structural chemistry of the silicones, explaining the various properties of silicones as a group of engineering materials and their most important applications in industry.

A wide range of tables and figures illustrate the text, showing among other things the structure of silicones, control of molecular weight by chain stopping, viscosity-temperature curves, manufacture of silicone oil and grease, application and properties of silicone fluids, useful temperature range of lubricants, test data on silicone rubber power cable, and many other points.

"The versatility of silicone chemistry, as can be seen from the principles outlined in this paper, is such that an increasing flow of new products can be expected in the future," Mr Reed concludes. He foresees that future developments in silicone resins will result in materials of greater strength and solvent resistance, and in curing at lower temperatures with no important sacrifice in electrical or mechanical properties or in retention of these properties at temperature extremes.

Production Forecasting, Planning, and Control. *By E. H. MacNiece. Second edition. 1957. Heavy paper cover. 374 pp. John Wiley & Sons, Inc, 440 Fourth Avenue, New York 16, N.Y.* $8.25

To solve the problem of faulty forecasting and operation planning in industry, this book is dedicated to the development of better production management in different fields of manufacture.

"The purpose of this book," Mr Mac Niece says, "is to tell of accepted production engineering practices, to discuss some economic and human implications related to them, and to provide some general rules for day-to-day, elbow-to-elbow relationships between those who forecast, plan, and control industrial production. As these practices, implications, and rules are more fully understood and applied by men in industry and those preparing for their places in it, our productivity will increase and human welfare will advance."

Among subjects covered are automation, factory planning, sales forecasting, production planning, procurement, stores and raw material stock control, loading, scheduling production, evaluating results and controlling, and cooperation with quality control.

"Attention to standardization does not imply that a company must make only one type or model of a commodity," the author points out. He quotes a leading British advocate of standardization who defines it as "only meant to be an instrument to manufacture the maximum variety of products out of a minimum variety of components by means of a minimum variety of machines and tools."

The publication includes many tables, charts, and illustrations.

ASTM Standards on Cement (with related information). *February 1957. Heavy paper cover. 6 x 9. 272 pp. American Society for Testing Materials. 1916 Race Street, Philadelphia 3, Pa.* $3.00

Developed by ASTM Committee C-1, this special compilation includes all of the ASTM standards pertaining to cement—specifications, definitions, methods of chemical analysis, and methods of physical testing. It has been substantially revised since the previous edition of October 1955. Revisions are included in the following:

- Methods of Chemical Analysis of Portland Cement, C 114-53
- Specification for Portland Cement, C 150-56
- Specification for Air-Entraining Portland Cement, C 175-56
- Method of Test for Autoclave Expansion of Portland Cement, C 151-56
- Tentative Method of Test for Calcium Sulfate in Hydrated Portland Cement Mortar, C 265-56T
- Tentative Method of Test for False Set of Portland Cement, C 359-56T
- Tentative Specification for Portland Blast-Furnace Slag Cement, C 205-56T

The four appendixes cover: Information on Analytical Balances and Weights; Manual on Cement Testing, which supplements the various standard methods of sampling and physical testing of cement by giving suggestions on laboratory procedures; List of Selected References on Portland Cement; and an article on "Principle of the Methoxyl Method for Determining Vinsol Resin in Portland Cement." By-Laws governing Committee C-1 and the committee personnel are also included.

AMERICAN STANDARDS UNDER WAY

Status as of September 30, 1957

Legend — *Standards Council* — Approval by Standards Council is final approval as American Standard; usually requires 4 weeks. *Board of Review* — Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks. *Standards Board* — Approves standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.

Note — Send check when ordering standards listed as published to avoid service charge for handling.

BUILDING AND CONSTRUCTION

American Standards Published

Open Web Steel Joist Construction, Short-span Series, Specifications for, A87.1-1957 $0.75

Sponsor: Steel Joist Institute

Material specification references, fabrication specifications, and requirements, suitable for building code use, for design stresses, span, spacing erection, bridging, decking, and protection for fire resistance of open web steel joists of the short-span type.

Reinforced Concrete, Building Code Requirements for, ACI 318-56; ASA A89.1-1957 $1.00

Sponsor: American Concrete Institute

American Standard Approved

Welded Steel Wire Fabric for Concrete Reinforcement, Specifications for, ASTM A 185-56T; ASA G45.1-1957 (Revision of ASTM A 185-37; ASA G45.1-1942)

Sponsor: American Society for Testing Materials

In Board of Review

Building Exits Code, A9.1- (Revision of A9.1-1953)

Sponsor: National Fire Protection Association

In Standards Board

Places of Outdoor Assembly, NFPA 102; ASA Z20.3- (Revision of Z20.3-1950)

Sponsor: National Fire Protection Association; Building Officials Conference of America

CHEMICAL INDUSTRY

American Standards Published

Common Name for the Pest Control Chemical 3-(p-chlorophenyl)-1,1-dimethyl urea (monuron), K62.2-1957 $0.25

Common Name for the Pest Control Chemical 3-(3,4-dichlorophenyl)-1,1-dimethyl urea (diuron), K62.3-1957 $0.25

Common Name for the Pest Control Chemical 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (erbon), K62.6-1957 $0.25

Common Name for the Pest Control Chemical 1-*n*-butyl-3-(3,4-dichlorophenyl)-1-methylurea (neburon), K62.8-1957 $0.25

Common Name for the Pest Control Chemical 2,2-dichloropropionic acid (dalapon), K62.9-1957 $0.25

Common Name for the Pest Control Chemical 2-(2,4,5-trichlorophenoxy) propionic acid (silvex), K62.10-1957 $0.25

Common Name for the Pest Control Chemical p-chlorophenyl p-chlorobenzenesulfonate (ovex), K62.11-1957 $0.25

Sponsor: U.S. Department of Agriculture

DRAWINGS, SYMBOLS, AND ABBREVIATIONS

American Standards Published

American Drafting Standards Manual, Section 1, Size and Format, Y14.1-1957 $1.00

Section 2, Line Conventions, Sectioning and Lettering, Y14.2-1957 $1.50

Section 4, Pictorial Drawing, Y14.4-1957 $1.50

Section 5, Dimensioning and Notes, Y14.5-1957 $2.00

Sponsors: American Society of Engineering Education; American Society of Mechanical Engineers

American Standards Approved

Letter Symbols for Heat and Thermodynamics, Y10.4-1957 (Revision of Z10.4-1943)

Sponsor: American Society of Mechanical Engineers

Graphical Symbols for Use on Railroad Maps and Profiles, Y32.7-1957 (Revision of Z32.2.5-1950)

Sponsors: American Institute of Electrical Engineers; American Society of Mechanical Engineers

ELECTRIC AND ELECTRONIC

American Standards Published

72-Inch T-8 Instant-Start Single-Pin Hot-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.805-1957 $0.25

25-Millimeter 93-Inch Cold-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.1104-1957 $0.25

25-Millimeter 69-Inch Cold-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.1106-1957 $0.25

25-Millimeter 45-Inch Cold-Cathode Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.1107-1957 $0.25

400-Watt BT-37 Fluorescent Mercury Vapor Lamp, Dimensional and Electrical Characteristics of, C78.1304-1957 $0.25

400-Watt BT-37 Mercury Vapor Lamp, Dimensional and Electrical Characteristics of, C78.1305-1957 $0.25

Sponsor: Electrical Standards Board

American Standards Approved

Wet-Process Porcelain Insulators (Apparatus-Cap and Pin Type), EEI TDJ-58; NEMA 146-1956; ASA C29.8-1957

Wet-Process Porcelain Insulators (Apparatus-Post Type), EEI TDJ-59; NEMA 147-1956; ASA C29.9-1957

Sponsor: Electrical Standards Board

Schedules of Preferred Ratings for Power Circuit Breakers, C37.6-1957 (Revision of C37.6-1955)

Power Circuit Breaker Control, C37.11-1957

Sponsor: Electrical Standards Board

Distribution, Power, and Regulating Transformers, and Reactors Other Than Current-Limiting Reactors, Requirements, Terminology, and Test Code for, C57.12d-1957 (Partial revision and supplement to C57.12-1956)

Sponsor: Electrical Standards Board

In Board of Review

Flexible Cord and Fixture Wire, Safety Standard for, C33.1- (Revision of C33.1-1954)

Sponsor: Underwriters' Laboratories

Rotating Electric Machinery Forming a Part of the Power Equipment on Electrically Propelled Railway Cars, Railway Locomotives, and Coaches (Trolley and Prime Mover), C35.1- (Revision of AIEE 11-1943; ASA C35.1-1943)

Sponsor: American Institute of Electrical Engineers

Definitions of Electrical Terms, Group 95, Miscellaneous, C42.95- (Partial revision of C42-1941)

Sponsor: American Institute of Electrical Engineers

In Standards Board

Fluorescent Lamp Reference Ballasts, Specification for, C82.3- (Revision of C82.3-1956)

Sponsor: Electrical Standards Board

Specialty Transformers, Requirements and Terminology for, C89.1-

Sponsor: National Electrical Manufacturers Association

MATERIALS AND TESTING

American Standards Published

Felted and Woven Fabrics Saturated with Bituminous Substances for Use in Waterproofing and Roofing, Tentative Methods of Sampling and Testing, ASTM D 146-56T; ASA A109.10-1957 $0.30

Sponsor: American Society for Testing Materials

Disintegration of Fireclay Refractories in an Atmosphere of Carbon Monoxide, Method of Test for, ASTM C 288-56; ASA A111.35-1957 $0.30
Sponsor: American Society for Testing Materials

Chemical Analysis of White Pigments, Tentative Methods of, ASTM D 34-56T; ASA K15.1-1957 $0.30
Sponsor: American Society for Testing Materials

MECHANICAL

American Standards Published

Transmission Roller Chains and Sprocket Teeth, B29.1-1957 $3.00

Inverted Tooth (Silent) Chains and Sprocket Teeth, B29.2-1957 $2.00
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

Five-Quart and One-Gallon Round Motor Oil Cans, Requirements for, B64.2-1957 $0.35

American Standard Approved

Abrasive Discs and Plate Mounted Wheels, Machine Mounting Specifications for, B5.35-1957
Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders' Association; Society of Automotive Engineers; Metal Cutting Tool Institute; American Society of Tool Engineers

In Board of Review

Carbide Blanks and Cutting Tools, B5.36- (Partial revision of B5.22-1950)
Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders' Association; Society of Automotive Engineers; Metal Cutting Tool Institute; American Society of Tool Engineers

MINING

In Board of Review

Roof Bolting Materials in Coal Mines, Specifications for, M30.1-
Sponsor: American Mining Congress

NUCLEAR ENERGY

American Standard Published

Glossary of Terms in Nuclear Science and Technology, N1.1-1957 $5.00

PETROLEUM PRODUCTS AND LUBRICANTS

Standards Submitted

Melting Point of Paraffin Wax, Method of Test for, ASTM D 87-57; ASA Z11.4- (Revision of ASTM D 87-42; ASA Z11.4-1942)

Cloud and Pour Points, Method of Test for, ASTM D 97-57; ASA Z11.5- (Revision of ASTM D 97-47; ASA Z11.5-1948)

Flash and Fire Points by Cleveland Open Cup, Method of Test for, ASTM D 92-57; ASA Z11.6- (Revision of ASTM D 92-56; ASA Z11.6-1956)

Heat for Combustion of Liquids by Bomb Calorimeter, Tentative Method of Test for, ASTM D 240-57T; ASA Z11.14- (Revision of ASTM D 240-50; ASA Z11.14-1950)

Definitions of Terms Relating to Petroleum, ASTM D 288-57; ASA Z11.28- (Revision of ASTM D 288-53; ASA Z11.28-1953)

Existent Gum in Fuels by Jet Evaporation, Tentative Method of Test for, ASTM D 381-57T; ASA Z11.36- (Revision of ASTM D 381-53T; ASA Z11.36-1953)

Distillation of Plant Spray Oils, Tentative Method of Test for, ASTM D 447-57T; ASA Z11.43- (Revision of ASTM D 447-55; ASA Z11.43-1955)

Kinematic Viscosity to Saybolt Furol Viscosity, Method of Conversion of, ASTM D 666-57; ASA Z11.53- (Revision of ASTM D 666-53; ASA Z11.53-1953)

Oxidation Stability of Aviation Gasoline (Potential Gum Method), Method of Test for, ASTM D 873-57T; ASA Z11.60- (Revision of ASTM D 873-49; ASA Z11.60-1949)

Sulfated Residue from New Lubricating Oils, Tentative Method of Test for, ASTM D 874-57T; ASA Z11.68- (Revision of ASTM D 874-55; ASA Z11.68-1955)

Olefinic Plus Aromatic Hydrocarbons in Petroleum Distillates, Tentative Method of Test for, ASTM D 1019-57T; ASA Z11.71- (Revision of ASTM D 1019-56T; ASA Z11.71-1956)

Water Tolerance of Aircraft Fuels, Method of Test for, ASTM D 1094; ASA Z11.82- (Revision of ASTM D 1094-53; ASA Z11.82-1953)

60 Octane Number Iso-octane-Normal Heptane ASTM Knock Test Reference Fuel Blends by Infrared Spectrophotometry, Test for Analysis of, ASTM D 1095-54; ASA Z11.94-

1,3-Butadiene in C_4 Hydrocarbon Mixture by Ultraviolet Spectrophotometry, Test for, ASTM D 1096-54; ASA Z11.95-

Density and Specific Gravity of Liquids by Bingham Pycnometer, Test for, ASTM D 1217-54; ASA Z11.96-

Unsaturated Light Hydrocarbons (Silver-Mercuric Nitrate Method), Test for, ASTM D 1268-55; ASA Z11.97-
Sponsor: American Society for Testing Materials

PHOTOGRAPHY

American Standards Published

Projected Image Area of 16mm Motion-Picture Film, PH22.8-1957 $0.25

Projected Image Area of 8 mm Motion-Picture, PH22.20-1957 $0.25

16-Tooth 35mm Motion-Picture Projector Sprockets, PH22.35-1957 $0.25

Photographic Sound Record on 16mm Prints, PH22.41-1957 $0.25
Sponsor: Society of Motion Picture and Television Engineers

American Standard Approved

General-Purpose Photographic Exposure Meters (Photoelectric Type), PH2.12-1957 (Revision of Z38.2.6-1948)
Sponsor: Photographic Standards Board

In Board of Review

Photographic Sound Record on 35mm Prints, PH22.40- (Revision of Z22.40-1950)
Sponsor: Society of Motion Picture and Television Engineers

Projector Aperture for 35mm, Anamorphic, 2.35:1 Prints with Squeeze Ratio of 2:1, PH22.106-
Sponsor: Society of Motion Picture and Television Engineers

In Standards Board

Focal Length Marking of Lenses, PH3.13- (Revision of Z38.4.4-1942)

Distribution of Illuminance Over the Field of a Photographic Objective or Projection Lens, PH3.22-
Sponsor: Photographic Standards Board

American Standards Withdrawn

Theater Projection Screens, Dimensions for, Z22.29-1948

Mounting Frames for Theater Projection Screens, Dimensions for, Z22.78-1950
Sponsor: Society of Motion Picture and Television Engineers

Withdrawal Being Considered

Flash Synchronizing Equipment Bipost-Type Connecting Cord Ends and Pins, Z38.4.26-1951

Flash Synchronizing Equipment Bayonet-Type Connecting Cord Ends and Pins, Z38.4.27-1951
Sponsor: Photographic Standards Board

SAFETY

American Standards Approved

Installation and Operation of Pulverized-Fuel Systems, NFPA 60; ASA Z12.1-1957 (Revision of Z12.1-1957 and Z12.17-1946)

Dust Explosions in Starch Factories, Prevention of, NFPA 61A; ASA Z12.2-1957 (Revision of Z12.2-1944)
Sponsor: National Fire Protection Association

TEXTILES

In Standards Board

Methods of Testing and Tolerances for Cotton Sewing Threads, ASTM D 204-56; ASA L14.14- (Revision of ASTM D 204-42; ASA L14.14-1949)

Method of Testing Spun and Filament Yarns Made Wholly or in Part of Man-Made Organic Base Fibers, ASTM D 1380-56T; ASA L14.90-

Method of Test for Length and Length Distribution of Cotton Fibers by the Array Method, ASTM D 1440-55; ASA L14.91-

Methods of Sampling Cotton Fibers for Testing, ASTM D 1441-54; ASA L14.92-

Method of Test for Fiber Weight per Unit Length and Maturity of Cotton Fibers (Array Method), ASTM D 1442-54; ASA L14.93-

Method of Test for Maturity of Cotton Fibers (Random Sample-Sodium Hydroxide Swelling Method), ASTM D 1443-56; ASA L14.94-

Method of Test for Cross-Sectional Characteristics of Cotton Fibers, ASTM D 1444-56; ASA L14.95-

Method of Test for Strength of Cotton Fibers (Flat Bundle Method), ASTM D 1445-53T; ASA L14.96-

Method of Test for Number of Neps in Cotton Fibers, ASTM D 1446-53T; ASA L14.97-

Method of Test for Length of Cotton Fibers by Fibrograph, ASTM D 1447-54T; ASA L14.98-

Method of Test for Micronaire Fineness of Cotton Fibers, ASTM D 1448-56; ASA L14.99-

Method for Determining the Specific Area and Immaturity Ratio of Cotton Fibers (Arealometer Method), ASTM D 1449-55T; ASA L14.100-

Method of Test for Maturity of Cotton Fibers (Polarized-Light Methods) ASTM D 1450-55T; ASA L14.101-

Method of Test for Resistance to Yarn Slippage in Silk, Rayon and Acetate Woven Fabrics, ASTM D 434-42; ASA L14.102-

Method of Test for Yarn Distortion in Woven Fabrics, ASTM D 1336-54T; ASA L14.103-
Sponsors: American Association of Textile Chemists and Colorists; American Society for Testing Materials

WHAT'S NEW ON AMERICAN STANDARDS PROJECTS

Small Tools and Machine Tool Elements, B5—

Sponsors: American Society of Mechanical Engineers; American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builder's Association; Society of Automotive Engineers.

Recommendations for a revision of the three American Standards on splines—involute splines, side bearing, B5.15-1950; involute serrations, B5.26-1950; and involute splines and serration gages and gaging, B5.31-1953—are giving special consideration to the needs of the designer, according to a report by Albert S. Beam, secretary of Committee B5's Technical Committee 13. The proposed revision of all three standards has not yet been completed. However, the Technical Committee's recommendations on involute splines and involute serrations have now been approved by the Society of Automotive Engineers as an SAE standard and published in the 1957 edition of the *SAE Handbook*.

The proposed revision transfers the data on control systems from the gaging standard to the standards on splines and serrations, thus changing the emphasis from tooling and inspection to design problems. Although at first it was intended that the revision would be merely an editorial rearrangement to carry out this transfer of material, Technical Committee 13 found other points that needed changing, Mr Beam reports. For example, the present American Standard on involute splines does not make clear the significance and use of "effective" and "dimensional" space width and tooth thickness limits. The present serration standard relies heavily on information given in the involute standard so that it is not easy for the occasional user to follow it. And finally, the present gaging standard is much too complex to serve as a convenient guide for the gage designer. Therefore, a major revision of all three standards was undertaken.

Important changes include a reduction of the number of spline fits and types, and provision of only one type and fit of serrations. Three types of spline fit are individually tabulated. The full dedendum flat root design has been abandoned for internal splines. Minor diameter fits are no longer presented. A change is made in tolerance practice for major diameter fit splines, and machining tolerances for space width and tooth thickness are slightly increased. Two central systems for the fit of involute serrations are presented, each having equal status. These are only a few of the important changes being proposed by Technical Committee 13.

As work progressed, the committee decided to combine the revised edition of all three standards into one volume, and to include an appendix covering all reference information pertaining to involute splines, serrations, and their inspection.

The sections of the new edition that deal with involute splines and involute serrations have been completed, Mr Beam reports. The section on inspection, and the Appendix are still in process.

"In view of the urgent need for this new material, it was decided to release parts of the completed portions of the standard in the *SAE Handbook*. It was also decided to release the reference material from the Inspection Standard and Appendix that is of such a basic nature that no other than minor editorial revisions will be made in the course of the committee's further work," Mr Beam says.

The information in the 1957 *SAE Handbook* therefore includes data on involute splines and involute serrations, tables on basic tooth data, on measurements between and over pins, a tabulation of dimensions and tolerances, of fillet radii, a listing of spline sizes correlated to bearing bores, and information on tapered serrations.

"Simple and effective usage are

American Standard Method of Testing

Fluorescent Lamp Starters

ASA
Reg. U. S. Pat. Off.
C78.181-1956
UDC 621.316.717:621.327.43.620.16

Erratum

On page 9, Fig. 3, Circuit for Checking at Voltage Limit Below Which the Starter Must Not Reclose, one end of the autotransformer was not connected. The figure should therefore be shown as follows:

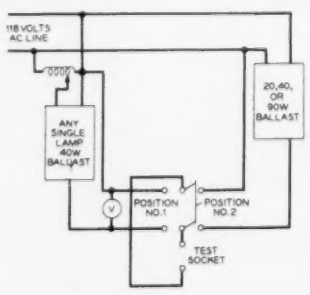


Fig. 3
Circuit for Checking at Voltage Limit Below Which the Starter Must Not Reclose

August, 1957

the keynotes in the combined spline and serration standards," says an article in the October *SAE Journal*. "The designer has been considered first by putting spline, serration, and inspection data into a package that pinpoints application rather than tooling problems." The article discusses the proposed revision in detail.

Filters for Biologicals and Sterile Pharmaceuticals, Z81–

Sponsor: American Drug Manufacturers Association

H. A. Dettwiler, Ph.D., Director, Biological Production Division, Eli Lilly and Company, Indianapolis, has been named chairman of this recently authorized sectional committee which is now being organized by the ADMA. Dr Dettwiler is a bacteriologist, a member of the Society of American Bacteriologists, American Association for Immunologists, American Association for the Advancement of Science, New York Academy of Science, and the American Society for Tropical Medicine and Hygiene.

"The committee will be interested in the development of standards to ensure reliable and consistent performance of filters used in the clarification and sterilization of biologicals and sterile pharmaceuticals," Dr Dettwiler says. "The project committee will consist of representatives from the filter and filter media manufacturers, biological and pharmaceutical industries as well as representatives from government, trade, and scientific organizations."

NOTE: A limited number of copies of the proposed revision will be available from the Society of Automotive Engineers and from the American Society of Mechanical Engineers. Anyone interested may write to SAE at 485 Lexington Avenue, New York 17, N. Y., or to the ASME at 29 West 39 Street, New York 18, N. Y. This proposed revision does not change the status of the present edition of these standards, which remain in effect as the latest approved American Standards on the subject.

Standards Outlook

by LEO B. MOORE

Mr Moore is Associate Professor of Industrial Management, Massachusetts Institute of Technology, where he teaches a full-term course in industrial standardization.

Standards Service

There is no evidence that the world will beat a path to your door if you build a better mousetrap. The path must be mapped out and the virtues of the mousetrap expounded, because the world's will to "beat" is being rapiuly replaced with a desire to ride. The competitive call of other roads requires that ours be well-paved, well-lighted, and well-marked. Standards departments are aware of this situation. From time to time mention should be made of the special efforts of company groups to spell out their pathways and their services.

Through the good offices of George C. Bailey, Supervisor of Standards, at the Glenn L. Martin Company in Baltimore, I have received some material as a case in point. The outstanding effort of this group is its Annual Report. This is a magnificent document, most effectively depicting the aims of the group, its tools and techniques, its organization, and its estimation of the future, Imagination is the key, the group says, of its activity, and I cannot help but feel that the report triggers the imagination of all who see it. In presenting the case, the statement is made that "standard components, designed and documented for all Martin products save time, shave costs, and snip red tape . . . and whatever your problem, Martin standard activities will help you get it done faster." The service is further delineated in the form of a description of the distinct advantages of standards and the path established through documented standards by an organization competent to develop them.

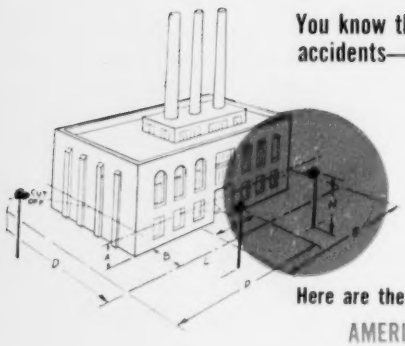
An illustrative story of the effect of standards properly employed in a situation and seen through the eyes of different company people adds materially to the standards story. It emphasizes the standards mission as a simple and vital effort to prevent duplication of effort and formulate experience into design standards. The pictures and illustrations throughout the Annual Report support the feeling that the standards group is keenly aware of its challenge to contribute to the present and future growth of the company and that it intends to do so through the principles for which it stands. Its report of progress in this direction is clearly charted and its aims for the future are made known. The standards group will surely grow with the company.

In addition to its Annual Report, the group also prepares and issues a bulletin entitled "Worth Looking Into," which deals with new product information. For design and other engineers, the material included assures that information on the latest developments in materials and products is brought quickly to their attention. Pictures and drawings overcome the vagueness of specification data. Cartoons help show how these new products might be of advantage to the company in its operations.

These efforts, prepared and presented in the true spirit of service to the company and all of its parts, give stature to the standards group and a purpose to its operations. They also point out the path for all to follow and the product to be sought.

LIGHT

Protects Your Property



You know that dark outdoor areas around your plant invite prowlers—accidents—theft

BUT DO YOU KNOW:

How much light gives proper protection?

Where should lights be placed?

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- Principles of protective lighting
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